THE

# NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

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MONTHLY.

SIMON BROWN, S. FLETCHER, } EDITORS.

## APRIL, 1867.

"When Nature clothes the various scene
With tufts of flowers, and robes of green;
When limpid streams their lustres give,
And health and glad contentment live
With lovely nymphs and happy swains,
In humble cots, on tranquil plains,
I bless her bounties, and I raise
My artless tueme to sounds of praise."

ALL animated beings hail the return of *Spring* with new delight; man, with his voice of thanksgiving; the lambs, the calves, and even the older kine, escaped from the restraints of winter, frisk and gambol in the pure air, and glowing sun. Cocks crow, birds sing, and insects, on glad wings, hum away their little life. To those, even, who have passed well into the vale of years, Spring comes with new inspirations and hopes.

The vegetable, as well as the animal kingdom, is kindled into new life. The earth gradually exchanges its winter robes for a mantle of green; flowers spring up at our feet; trees and shrubs put forth buds which are soon expanded into blossoms and leaves, so that our first feelings are those of wonder and delight at the marvellous change.

This sudden burst of vegetation is produced by the "increased temperature of the earth and atmosphere, assisting the natural tendency of the plants to awake from the lethargic state into which they are thrown during winter. The progress of the earth in its orbit towards its greatest distance from the sun, causes that luminary to ascend higher in the heavens, and to be longer above the horizon, and thus produces longer and warmer days. The more perpendicularly the sun's rays fall upon the surface of the earth, the greater is the heat they excite. Hence, as the sun daily ascends higher above the horizon, and consequently darts his rays upon us in a more perpendicular direction, the temperature of the earth and air gradually increases, and milder and more genial weather ensues. * * The earth opens, as it were, her bosom to the sun; all her veins feel the genial influence; and a vital energy moves and works in all her blossoms, buds and leaves. What was lately barrenness, becomes fertility; from desolation and death start up life and varied beauty, as if beneath the reviving footsteps of a present Deity."

Heat is the great external agent in vegetation. By it the fibrous and cellular substances are gradually expanded, so that the sap ascends from the roots through the innumerable minute tubes and cells in the trunks and

branches, and circulates through the finest veins of the leaves and flowers. This heat increases in intensity by degrees, and if it becomes too great, is occasionally checked by atmospheric changes. When these occur, the buds seem to possess a wonderful power, (the natural law, we suppose, of expansion and contraction,) of shrinking into one-half their former size, with their scales or covers so completely closed around them, as to exclude the external air. Sometimes, however, the cold is so great as to condense the vapor into frost, and tender plants are ruined. When once a plant has put forth its foliage, and its vital action is in play, it will bear a temperature lower than that in which it first started.

There is, also, something well worthy of thought, and extremely interesting, in the *adaptation* of plants to the climate. A very large proportion of the seeds which we sow, are committed to the ground in the spring. In their process of germination two things are indispensable—warmth and moisture; these must be moderate and constant. July suns would excite such a degree of evaporation as to abstract nearly all the moisture from the soil, and a drenching summer shower would be likely to wash seeds from their places or drown them out. But the frequent, "soft-falling showers" of April and May are calculated to afford all the moisture that the germinating seed needs, while the gradually increasing heat keeps the soil just in that state of warmth best calculated to send upward the young and tender germ.

In June, the sun is more vertical, and the heat much greater, but the plants have now laid strong hold of the soil, by sending their roots below, where the warm and moist air penetrates, and where evaporation has but little action. Having now this supply of moisture for the numerous feeders they have sent out, the influence of the sun's rays are beneficial and greatly promote the growth of the plants.

The "analogy, therefore, between the vegetative effects of the daily increasing temperature of this season, and the well-known influence of climate upon the geographical distribution of plants," is very striking. See, from the first dawn of spring, how flower succeeds flower, and tree after tree comes into leaf in regular succession. The reader will observe that this adaptation continues from the frozen region of the polar circle to the equator, giving us all the vegetable forms from the lichens of Lapland to the spice trees of the tropics. In the frozen regions of the north, the reindeer feeds upon the apparently dry and unnutritious mosses that cling to the rocks,—while "within the torrid zone, maize and rice begin to be cultivated. As we approach the equator, the vegetable productions of the earth increase in richness and luxuriance. In the tropical region, we meet with the finest fruits and aromatics, and all the plants that most administer to the luxury of man. There flourish the sugar cane, the coffee tree, the bread tree, the palm, the date, the cocoa, cinnamon, nutmeg, pepper, camphor tree, and numerous other vegetable treasures."

It is from these facts that the farmer may draw the most important inferences, viz: that he must commit his seeds to the soil, when their germination and growth will receive the most influence from the peculiarities of the season to which they are adapted; that unless so committed they will not be in a condition to receive the greatest benefits from the succeeding seasons of growth and ripening; that is, delay in preparation of the soil, and sowing at the right time, will be delay throughout the growing and ripening period.

## FARM WORK IN APRIL.

The best way for farmers to conduct their affairs is, so as to *have no regrets*. Carpenters, lawyers, shoemakers, manufacturers, &c., can perform their work at almost any time, and *sometimes* get along very well in a slip-slop way; but the farmer cannot. The Lord of the seasons has confined him to the observance of *natural laws*, and he must regard them, or all will be barren about him. If he will have a harvest, he must have an appropriate *seed-time*, or he shall not reap.

Some farmers have been living upon regrets (and other things) for the last forty years. Every spring regretting that they did not set an orchard twenty years ago, lay out a garden and plant pear trees, set currant bushes, raspberries, establish an asparagus bed, and introduce a few choice flowers, where a wife or daughter—now saints in heaven—urged it many years ago!

"How sorry I am," said farmer A., that I

did not set twenty or thirty pear trees, in the month of May, when George was born. My land is suitable, and had I set them then, we might have a variety and abundance of pears. Now we have none." So hundreds annually say of the garden, of vegetables, fruits and flowers. Delays are dangerous.

Such is frequently the case with regard to stock, horses, oxen, cows and sheep. The farmer finds his old, faithful horse away beyond his "teens," and his cows with failing teeth; and yet there are no colts or calves to supply their places.

Now is the "time to turn over a new leaf," and have something coming on to supply the family with vegetables and fruits, and fill the barn with farm stock.

All the plans for sowing and planting, setting trees, shrubs, plants for small fruits, and for completing arrangements for all the spring work should be completed early in April. When this is done, the farmer has a *definite* object before him; has no doubts about this thing or that, but is able to go directly ahead in all the various duties before him. Why is not this as important to his business as it is important in most other engagements? If he tries the plan he will find that it is.

Go on with plowing as fast as the soil is sufficiently dry to drop to pieces when moved.

Add something to the extent of ditches, as opportunity offers.

Scatter droppings of the cattle on mowing fields.

Get wood under cover before the month closes.

See that all the seeds wanted are on hand, and of good quality.

Overhaul manures and get them ready for use. The finer they are, the more useful they will be the present year.

Attend to the setting of the hens. Let them have three inches in thickness of earth to place their eggs upon. See that vermin do not annoy them.

These are a few things which *April* demands should be done in April. Do them seasonably and well, and they will make liberal returns.

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—The New Orleans papers announce the arrival there of one of Fowler's English Steam Plows. Its trial on the fair grounds, near the city, was witnessed by a large company of planters and others.

*For the New England Farmer.*

## "GRAPE FEVER."—No. II.

Partial failures have led some persons to speak of the excitement alluded to in my last, as "grape fever;" and some others have used the same words intending thereby to warn and discourage persons who have shown an interest in the discussion of the subject, and who have seriously made up their minds to cultivate grapes. In my last I intended in a somewhat humorous way to suggest some of the causes of failure, and I did seriously mean the whole to be a warning to those who are liable to be humbugged by unscrupulous dealers in vines. If any reader of those remarks should think me too severe, or in the following too self-confident, I can only say that if they will call upon me at my home, I will give them all the evidence usually expected in such cases, that such has been the experience of myself and of some of my neighbors.

I now return to the question, "Will it pay to grow grapes in New England?"

The varieties called Anna, To-Kalon and Catawba I have never seen ripe in the open air in Massachusetts. I have seen Catawba colored, but not ripe in the sense that makes it fit for eating. Diana, Isabella and most of the seedlings from these, and from Catawba, are too uncertain in ripening their fruit to be fit for general cultivation. All these varieties are excellent when fully ripe, but they can be seen in that condition, in this State, only in sheltered places and favorable seasons. There are other varieties which can be cultivated for the market, that will average, in a series of years, double the amount of profit.

Roger's Hybrids, Nos. 3, 4, 15, 19 and 33, are all strong and healthy growers, their fruit is beautiful to look upon, and very good as table grapes. It is said by some that they will not bear our winters in this State unless they are carefully covered. I have not proved them, except in one instance. I purposely left seven each of Nos. 15 and 19 quite exposed to all winds but the west, without any covering or shelter during the winter of 1865 and 1866, and they all lived and did as well the following season as any plants in my collection. I have some exposed this winter. I do not think it best to say more about these, as I have not cultivated them under all those conditions I think they should be, to prove them reliable as a market grape.

Allen's Hybrid and Sweet Water, are both good white grapes, the former the best in vine and fruit, and the very best white grape we have at present, in this State. It is, however, about certain to winter-kill if left uncovered.

Adirondac, Creveling, Iona, Israella, and Rebecca, in soil and location to suit them, are all good grapes. Iona, the best of grapes in the open air in this country, where they can be fully ripened. I have seen it in that condition in this State but once—I fear I never

shall again, except in unusually dry seasons. Of Israella and Rebecca I must say the same I have of Iona, except that they are not so strong in vine. Here, Creveling is a strong grower, the fruit sweet, and is ripe early in the season. Adirondac is a vigorous, handsome and promising variety—the fruit of which, though not considered as good as Iona and Delaware, is very sweet and melting. It is a new variety, and, although it originated in about 44° North latitude, some speak of it as not being very hardy. I have had it above ground but once during the winter, when all the wood died down to the ground; the wood that was covered lived and grew well.

With the experience we have had up to the close of last season, it would seem to be unwise to plant a vineyard of either of the forementioned varieties, if the cultivator's object is *profit* realized in growing them for market. No doubt all these varieties are cultivated with much satisfaction by persons of taste and experience, and in many cases the fruit is worth double the cost of raising it; yet, with each variety, as with the Delaware, there is some one defect, or some one condition of soil, or location, or season, or some habit of the vine which is sufficient to disqualify it for general culture in our climate, especially if the owner has not had long and careful experience in their culture.

There are two varieties of grapes that require no more experience to grow them successfully and profitably in our State than is required to gain the same object in growing the most easily raised vegetable, as both varieties are natives of New England, will do well on the poorest soils, will not winter-kill, and require no more experience in training the vines, &c., than can be gained by any intelligent man by observing for one season the following rules:—

Get plants from wood grown north, of no other variety than Hartford Prolific or Concord—the last is the best grape, and will bring the greatest price in the market. Plant only those vines that are strong in growth, hard in wood and having plump-looking buds. The soil should be high, and free from stagnant water. In such case, most soils are suited to those varieties; but those having lime or granite in them produce the best grapes. Plant the vines, for trellis, one to every six feet; the rows from six to eight feet apart; six is sufficient for the vines, eight gives more room to cultivate, and where land is plenty, is the best distance. For poles, plant the vines four feet apart, and the rows should be six feet. Start the vines with good rotten manure or compost, or wood ashes, and afterward regulate their growth by the use of these; use wood ashes if you can obtain them. Never stimulate the growth to more than eight inches between the buds, or the wood will be spongy, and the crop of fruit the less for it on any given space.

In November, cut back all wood but that which is needed for forming the twist around the post or the arms on the trellis, until the vine is three years old; after that cut back each year's growth to one inch above the second bud.

The first year of bearing, allow but from two to six bunches to remain; weigh these and make a note of the same, so that next year you may be able to guess at the weight by seeing the bunches, and then allow from six to ten pounds to the vine, and so on, according to age and strength, until your posts or trellises will bear no more wood for want of space. In this way you will avoid losing your vines from the chief cause of the destruction of healthy vineyards; namely, overbearing.

Now, if any man will plant Hartford Prolific and Concord grape vines, and cultivate them by the rules I have given, he will make more money, if they bring six cents per pound, instead of sixteen, as they now sell for, than he can make by any farm crop he can raise on the same land.

If any person can prove the contrary of what I have stated, as a favor to myself, and in justice to many who think as I do, will they be so kind as to do so?

If what I have stated cannot be disproved, then to grow grapes is very *profitable*, and whoever is affected by such a "grape fever" will have no cause to regret it.

JOHN FLEMING.

*Sherborn, Mass., Feb.* 23, 1867.

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BEET SUGAR—The *New York Tribune* gives an encouraging statement of the success of the Beet Sugar Company, at Chatsworth, Illinois. They planted 400 acres, mostly fresh prairie, and raised a crop of 4,000 tuns of fine beets, at a cost of $4 a tun in the pits. The delays consequent on starting the machinery of a new factory has afforded time to test the keeping qualities of the beet, and it appears that only one per cent. was lost by four months delay. The works are now in operation, and upon a trial of various parts of the crop the average yield of fair refining sugar is 7 1-2 per cent., and of refined, equal to New York "B," 5 1-2 per cent. When all the beets are worked up, the yield must reach nearly 400,000 pounds of refined sugar. It is claimed that this experiment shows that beets can be grown on the raw but rich soil of the West as well as on the highly fertilized soils of Belgium and France; that the yield of sugar is almost precisely the same, and that the beets can be kept till they can be used.

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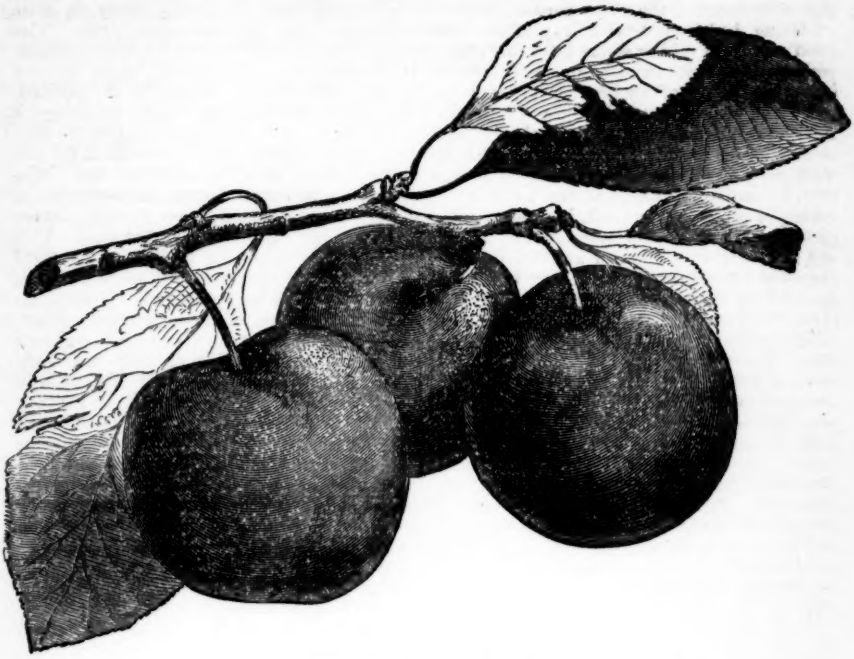
—According to Mr. Lawes' estimate the manure from a ton of wheat straw is worth $2.68, while that from a ton of clover is worth $9.64.



COLUMBIAN GAGE PLUM.

This fruit was originated by Mr. L. U. Lawrence, of Hudson, N. Y., from seed of the Green Gage. It ranks as the best of the large, dark colored varieties of the plum. Downing, who is the best authority in regard to fruit originated in New York, says of it:—"The tree is remarkable for its very strong, blunt shoots, large, roundish leaves, and the spreading, horizontal form of its head. It is also highly productive. Branches and upper sides of the leaves downy. Fruit of the largest size, six or seven inches in circumference, nearly globular, one-half rather larger than the other. Skin brownish purple, dotted with numerous fawn-colored specks, and covered with much blue bloom, through which appears a reddish brown tint, on the shaded side. Stalk about an inch long, rather stout, inserted in a rather small cavity. Flesh orange, not very juicy, but when at full maturity, very rich, sugary and excellent. The flesh separates freely from the stone, which is small and compressed." Ripens in New England early in September.

Our engraving is an accurate copy of a specimen of the plum, gathered by us from a tree in the garden of Mr. Henry Vandine, at Cambridgeport.

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*For the New England Farmer.*

## WHEAT CULTURE.

The high price of flour and its excellence as an article of food, bread being the staff of life, should stimulate every farmer to its cultivation. In some portions of New England, there is considerable prejudice in regard to the cultivation of wheat. Many, having tried once or perhaps twice and having failed, declare that it cannot be raised, or at least, successfully. I, however, believe that wheat can be profitably cultivated by most farmers in New England, although it needs some experience in order to raise a good crop of wheat as well as any other crop. In saying this I do not wish to be understood that wheat can be grown on every kind of soil, for it cannot. Still I do believe that most of us can and ought to produce our own flour. Wheat ought to be raised, not only for its excellence as an article of food, but when successfully cultivated, it is a very profitable crop, more so than any other grain crop. Moreover, it exhausts the land less than

either oats or barley, and grass seed sown with it is much more apt to germinate and grow than with either of the above named grains.

Having had considerable experience and good success in raising wheat and other crops, perhaps it may not be amiss to relate some of it, for the benefit of my brother farmers; not that I feel myself master, but just a beginner. Agriculture is the greatest of all sciences, and as all sciences are developed from small beginnings, why may I not add my mite? The seasons, of course, have a great deal to do in the raising of all crops, but still, in order to raise good crops, man has a certain duty to perform, and if we expect to succeed and thrive, it behooves us to find out what that duty is. I seldom fail to raise a good crop of wheat, as I hardly ever realize less than twenty, and have raised as many as thirty-five bushels to the acre. Last year I raised on two and a half acres, and from four and a half bushels sowing, seventy-five and a half bushels by weight. I generally sow after a potato crop, and my mode of procedure is as follows: When I first break up a piece of land I almost invariably plant corn, manuring only in the hill, applying ashes, &c. The second year I manure heavily by spreading on, and plant with potatoes, putting no manure in the hill, but using some plaster, and I have had but two poor crops in eleven years, and some seasons have raised as many as four hundred bushels to the acre. My land has now been planted two years and has produced two good crops. By ploughing, and by hoeing and digging the potatoes, the manure that was spread has been thoroughly pulverized and mixed with mother earth, instead of being left in coarse lumps to dry and evaporate as in the old practice. My land has been enriched and equalized and is in good condition, not only to produce straw, but also that precious berry that we have been laboring for.

If you have manured heavily, plough deep and sow early, and don't be afraid to get the grain in too deep. Keep off your old-fashioned iron-tooth harrow, for it does not work the grain in far enough, and the more you harrow your land with it the harder it becomes. Get a good cultivator harrow—they work like a charm—leave the ground light, and get the grain in as it should be. I sow spring wheat of the French T variety. Yours truly,

ISAAC W. HUTCHINS.

*Templeton, Mass., Feb.* 22, 1867.

REMARKS.—We are proud in being the "organ" of the practical experience of such farmers as Mr. Hutchins.

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*For the New England Farmer.*

## THE CULTIVATION OF HOPS.

MR. EDITOR:—The present comparatively high price of hops is awakening an interest in their cultivation. They were formerly cultivated quite extensively in Eastern Massachusetts. The reasons which led our farmers to cease to cultivate them, were chiefly the three following: 1st, the fluctuating price. This ranged from 8 to 10 cents to 40 or 50 cents. When the price was high, they would set new yards. When it fell below 13 or 14 cents, they would plow them up. Fifty years ago it was thought that 12½ cents would pay for their cultivation. Then poles were worth $7 per hundred, and labor 75 cents per day. The second reason was the scarcity and high price of poles. They gradually rose to ten, twelve and even fifteen dollars per hundred. This decided many to quit the business. The third reason was that they required much manure, and returned nothing to the soil. If they cultivated a large field of hops they had nothing with which to raise corn and grass, and in a few years they were able to keep but small stocks of cattle, and of course had but little manure, even for the hops. I do not propose at this time to discuss the propriety of farmers engaging again in hop culture. I have some pleasant recollections of the old-time hop-pickings, when we used to eat the luscious watermelons and roasted corn in the evenings at the hop-kilns, and when the buxom daughters of the farmers, with their gloves and sun-bonnets stood at the bins day after day through the hop harvest, and when the bag, with a hoop at the mouth was suspended under the trap door in the slatted floor of the kiln, and the dried hops were pushed into it with a rake, and the smallest boy jumped into the bag to tread them down, and had to tread for dear life to keep on the top of them, and prevent being smothered by them. They were pleasant days, which will never come again to me at least. I write now to send you a short article from the *Prairie Farmer*, entitled "Horizontal Hop Yards," which is the invention of a Mr. Collins, and is patented. By the old method, two poles per hill are generally used, costing very heavily.

By this method, only one stake per hill is necessary, and this only sufficiently high to admit of the passage of men and horses under the twine, to cultivate, etc. The stakes are set about one foot in the ground. In order that the stakes may be more durable, they are generally coated with gas tar; tarred hemp twine is also used. In a little publication on Hop Culture, issued by Orange Judd & Co., the following comparison between the expense of establishing a yard by the old and the new modes, is made:—

Cost of yard with long poles, 1400 poles at 20c, $280; sharpening, $10; setting, $7. Total cost, (not counting handling,) after setting vines, $297.

With stakes: 750 feet lumber for stakes, $15 to $20; gas tarring stakes, $2; 25 lbs. twine at 30c, $7.50; setting stakes, $1; putting on twine, 50c; right per acre, $10. Total cost after setting vines, $36.

The stakes are generally made 1 1-4 inches square, though of course the size may be varied. The stakes for the male vines are made longer, say 18 feet, and are not attached to the other stakes by the twine, as they are affected more by the wind, and would be liable to break the twine. The ob-

ject of letting the male vines run higher, is that the pollen may be distributed over the yard. The twine is tied to the outer stakes only, and is wound once about the others.

In the above extract, a method is described by which a large part of the cost of poles may be saved, which, if found to work well, will do away with one of the most serious difficulties in the business. Yours, &c. J. R.

*Concord, Mass., Feb.*, 1867.

## CRANBERRY CULTURE.

The following observations by NATHAN BRIGGS, in the *Barnstable Patriot*, will be found to answer most of the inquiries which have recently been made of us in regard to the cultivation of this fruit.

*The Choice of Location.*—First, cranberries will grow on high, moist land, and sometimes produce well, but their proper place is low and springy, or wet land. The best place, however, is a peat-bog and swamp muck.

*Preparation of the Ground.*—First, make the surface of your ground as even as possible, and nearly level, with a slight inclination towards a drain, if you have one, in order that it may be easily flowed, and no ponds remain after drawing off the water. This may be done with any material. There should then be put on this level surface, about four inches in thickness of swamp muck or peat, which should be again covered with about three inches in depth of loose sand, free from grass or its fibres, and also from clay or stones. It is not important what the color or quality of the sand, if it be not adhesive, and is free from roots and grass. Clay is not good.

*Time of Planting.*—From the first of April to the middle of June—on wet ground, continuing through the summer to plant, if convenient, and as it is wished. In dry land those planted in summer sometimes fail on account of drought and heat. Those set late, lose a year's growth, and may as well be set in spring, if the land be not too wet.

*Manner of Planting.*—The form of planting which has resulted in the most rapid advancement of growth and production, is to scatter whole vines upon a mud or peat surface; then press them into the mud with your foot, and scatter over them light sand, about one inch in depth. Patches planted in this manner seem to be a year ahead of those planted in the ordinary way. The general plan, however, is to set them in hills at eighteen inches apart. Take a pointed stick, say four inches in thickness, through which at eight inches from the point insert a gauge rod eighteen inches long, which serves to govern the distance from one hill to another. With this pointed stick puncture the ground in uniform rows, insert into these holes a small handful of vines, and press the mud around and among them, spreading them about as much as need be.

*Quality of Vines.*—Vines should be procured from meadows which have borne well, and of good fruit, as the best way of knowing good bearers. There are several species, such as egg-shaped, bell-shaped, and cherry-shaped. The former are most approved, and are said to be four or five weeks earlier.

*Cultivation.*—The cranberry needs little cultivation. Having your land properly prepared as before stated, and properly ditched, and clear of roots and grass, it may require the first year a little hoeing among the vines. After the first year, it would be likely to do as much injury as benefit, by disturbing the young fibres, which are now thickly set. It is better after this, to pluck the weeds by hand, put them in a basket, and carry them off. After the second year, let them alone. The third year you will get a fair crop, the fourth will probably be the best. It is not yet ascertained how many years they may do well. Fair bearing is considered one bushel to a rod; there have been instances of one barrel to the rod. Rushes, and bunches of weeds and grass may at any time be cut out.

*Flowing.*—Flowing is not absolutely necessary. More than half the meadows which I saw were not flowable. If flowable, the water may remain on all winter, and let off in March. It should be let on about the 20th to 25th of May, and again the 1st of June, for not exceeding thirty-six hours; after this it is not needful. Blossoms are injured by the water remaining on too long, the object of which is to destroy the insects. After the second flowing there is little to fear from them. The grade of the land and the ditching should be so arranged as to easily flood or clear the surface, and the sides of your drains should slope to an angle of forty-five degrees or more, in order to their permanence and utility; the number, arrangement and size being directed by good judgment.

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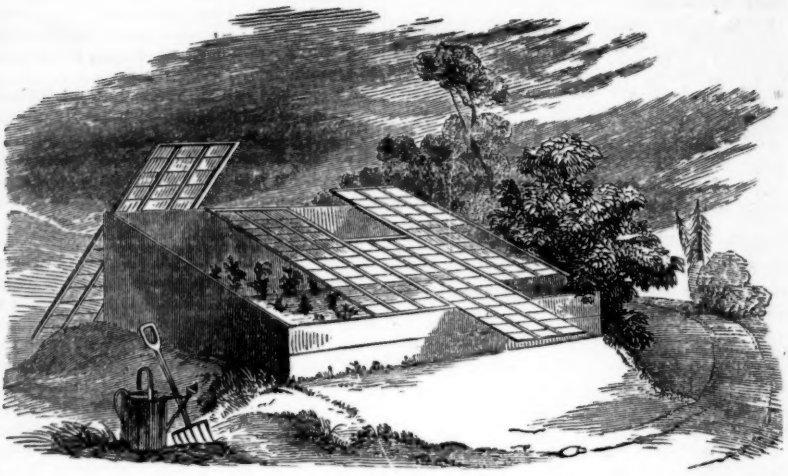
THE CENTAL SYSTEM.—After the first of March, the Boards of Trade of the large grain marts of the country have agreed to buy and sell grain by the 100 lbs. The *Rural New Yorker* gives the following rule by which buyer and seller can make their own calculations:—

The standard weight of wheat per bushel is 60 lbs.; Corn and Rye, 56 lbs.; Barley, 48 lbs.; Oats, 32 lbs. The price per bushel being given, to find the price per cental multiply the price per bushel by 100 and divide by the number of pounds in the bushel. For instance:—At $1.50 per bushel for wheat, what is the price per cental?—150×100=15,000÷60=$2.50, which is the price per cental. Again: The price per cental being given, to find the price per bushel multiply the price per cental by the number of pounds in the bushel and divide by 100. Example: At $2.50 per cental, what is the price per bushel of 60 lbs.?—250×60=15,000÷100=$1.50, the price per bushel.



*For the New England Farmer.*

## HOT BEDS.

While to the professional, or market gardener, the hot bed is an essential adjunct, to the family garden it is a very convenient appendage; enabling one to produce the choice products of the garden several weeks earlier than they can be had otherwise. Many are deterred from constructing a hot bed from an erroneous impression that the trouble and expense are greater than the advantages to be derived therefrom. Necessarily the expense may not be very large, as a cheaply constructed frame and sash may be made to answer a very good purpose; but a well-constructed frame, and good glazed sash, if properly taken care of, are the cheapest, as they will last quite a number of years, and the outlay of a few dollars to start with will enable one to have all the advantages to be derived from a good hot bed. One other objection is often urged—the amount of manure needed for the bed. This need be no objection, for the manure may be taken for other purposes after being used in the bed, and being well decomposed is admirably fitted for later crops. Frames constructed of good plank, and, as often recommended, with iron loops on the ends of the sides, to pass through mortices in end pieces at the corners, and fastened by inserting keys through the loops, will make the most convenient ones, as they may be readily taken apart, when through with for the season, and packed away so as to occupy but little space. Sash of three by six feet, well glazed and painted, are about as handy as any size, and as frequently used by market gardeners as any. As the editor very kindly illustrated a cheap and easily-made hot bed, accompanied with remarks, in connection with my former article on "The Garden," the reader will have no trouble in understanding the principle of a hot bed with glass, as shown by the above cut. In constructing the bed, I prefer to excavate a pit about a foot larger on every side than the frame, and some 18 inches deep. Fill this and raise it about a foot above the surface with the manure, and on this place the frame, and bank up with earth, covering the manure five or six inches deep, or more, outside the frame; place the sash on and let the manure steam. When the heat has subsided to about 90°—it will go to 100° or more—spread on five or six inches of fine rich garden mould. well filled with vegetable matter, and in this, after warming up a few hours. sow your seed in drills from front to back side of the bed. The bed should face the south to receive the full benefit of the sun's rays. Beginners are too apt to sow their seed in the hot bed before the heat begins to subside, and thus lose them, and from the failure thus induced, become discouraged; whereas had they hurried *more slowly*, success would have attended their efforts.

I have stated that manure for heating is needed; this is of the greatest importance, and also that it should be of lasting material, that the heat may be continued as long as possible. Horse stable manure, plentifully supplied with strawy litter is commonly used, as this is of a quicker nature than other animal manure. This should be thrown into a heap under cover, as thrown from the stall, a few days before being used—have one-half its bulk in leaves mixed with it and firmly trod. In the absence of leaves, one-half the quantity of

cow manure, well littered, may be used, to make it compact. In a few days it will begin to heat, which is known by the steam rising. When well steaming, throw it over, mixing it well and keep it trim, to prevent having frozen lumps, &c. When used in the bed, spread it evenly over the whole surface, beating it down with the fork well, and if lightly trod to pack and keep even, no harm is done. The object is to keep an even surface when the bed settles, as settle it will, after heating awhile.

### Care after Sowing the Seed.

Any one who is indisposed to give some time, and take a little trouble in order to enjoy the luxuries that may be derived from a well-managed hot bed, had better not meddle with one, for we may not expect to enjoy the luxuries of life without care and trouble. Especially where we turn nature and her laws from their course by so direct an interference, more care is required than when less interfered with.

The bed will need protection from the heat of the sun when it shines bright in mid-day, by sliding the sash to give air, or in shading partially; also protection during the night, till into May, in this latitude, by covering with light shutters or straw mats. It will also need to be looked to, that it never gets dry. The water used should be slightly warmed and applied from a watering pot with a fine rose-sprinkler. A neglect for an hour of any one of these little things may result in the entire destruction of the plants that have been started. By failing to give air, or shade, when the sun is hot and clear, the concentrated rays will often burn and ruin the plants. Hence in clear still days it is often advisable to remove the sash entire for an hour or two in the middle of the day. If the wind blows, with a bright sun, slide the sash down a few inches to give air. While guarding against the effects of heat, don't forget the frost, lest some cold snap may leave your tender plants or vegetables with the chills, or you find them frozen in the early morning.

The large variety of plants that the hot bed is useful in starting, or forwarding, early in the season, needs no repetition here; but for all that require a long season, it is almost indispensable, as well as for those early spring luxuries which can be had in no other way as early. March is the proper time for making up the hot bed, as a general thing, in this latitude.

WM. H. WHITE.

*So. Windsor, Ct., Feb.* 12, 1867.

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*For the New England Farmer.*

## "GRAPE FEVER."

Doctors say that sometimes fever saves life. I suppose they mean that in the cases alluded to, the fever saves the individual from a worse form of disease. But as "fever" causes undue excitement and loss of strength, I have adopted the heading of this article to call attention to the following question,—Does it *pay* to grow grapes in New England?

The agitation of this question is producing so much excitement in the minds of persons owning land, that there is danger of much money being lost by some of those who will be induced to plant grape vines for profit. The love of money and the necessity of possessing it, is an inducement to industry in good men, but in bad men it is sometimes an inducement to sell that which is worthless and to misrepresent in order to do so. The industrious farmers of our neighborhood are in danger of catching a fever, which, to get patients, ignorant pretenders as well as experienced doctors can produce, and which fever, through the *pocket*, may leave them shorn of their strength; and ever after liable to have an *intermittent* fever when the subject of grape culture comes under their notice.

Under one class of conditions grape culture is *ruinous* to the pocket, under another class of conditions it is *remunerative*.

To those who, by wisdom dearly bought, have proved this to be true, it is a matter of regret that so many persons write about grapes in such a way as to give the impression that the variety of grape they prefer must be the best for general cultivation, without saying anything about the adaptation of the vine to the various conditions of climate, soil and culture; as though it would do well and be profitable in any State of the union—in any soil—where corn will grow.

Distant propagators, personally, by their agents and through the newspapers, are visiting our towns and selling large quantities of vines that are useless, if profit be the object of the purchaser. A large number of the varieties they sell can no more ripen their fruit *here* than the orange or lemon can ripen its fruit in Pennsylvania; and such a degree of ripeness can never allow of profit in their culture.

The demand for vines has been so great, that persons have been led to raise them from parent vines that were unfit, by reason of excessive layering; from these weakly vines, others have been propagated; and again from these, in the same way, many times in succession, until of some varieties it seems difficult to get a healthy plant. What makes the matter worse is, that the demand has called into exercise skill in propagating from even these unhealthy vines, under glass, and from green wood.

Many of these may be nursed and made to do pretty well in a warm climate, by persons whose object is not profit, but when they are sent north they are for the most part useless.

Many of the varieties called hardy are grown from diseased vines; some from wood that is feeble as to size; some from wood that is soft, owing to the soil having too much manure in it, and some from wood that was unripe; none of these can be expected to be profitable, for they

are all weak in constitution, are constantly injured by the extremes of temperature, and will die from causes that a healthy vine would not be injuriously affected by.

A great many vines sold in New England require long nursing, and sometimes uprooting, owing to the injuries received by careless transportation and by passing through too many hands before reaching the cultivator.

That vines raised out of New England will not do well here, I do not say; but, that vines grown here, from healthy wood that is fully ripe, either by layers or by cuttings, and in the open air, are the vines above all others for New England culture, I think but few observing men will deny. I do say, that of all the vines sent here from the States of New Jersey and New York, from one or the other of the causes I have mentioned, a very large proportion of them die, and that to make sure of having the vines we want, it is best to get them as near as possible to the place in which they are to be planted.

In the January number of the *Horticulturist* George Husmann of Missouri says:—"My advice to your readers, North, South, East and West, is to try for themselves for their locations, and, *after trying*, plant that which suits them best, not what some would-be authority, a thousand miles off, recommends as the best grape, superior over all others."

Now, provided the soil be suited to the grape, and the culture be adapted to the wants of the variety cultivated, what has been said will suggest why many that have caught the "grape fever" have lost much strength through the pocket; while on the other hand, all who have been affected with "grape fever," and have been treated properly by Dr. Grant and other doctors in our profession, have, under the conditions herein indicated, in all cases, found "grape fever" useful in saving them from worse forms of excitement, and proved that on the rod or the acre of land, more profit is made than can be realized by the culture of any other fruit on the same kind of soil.

I have not written a word for a newspaper since the "Basket-Willow Fever" was so destructive. If I am considered as correct in my views of "grape fever," as it has been proved I was in regard to the "Willow fever," and my remarks as acceptable, I have some other things to communicate, which, in the last ten years, I have learned while growing, buying and selling grape vines. JOHN FLEMING.

*Sherborn, Mass., Feb.*, 1867.

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*For the New England Farmer.*

## PHILANTHROPY IN PASTURE.

It is certainly an honor to a Christian people to be engaged in multiplied measures to better the condition of communities and individuals. The building of light-houses and the improvement of harbors, at a nation's cost, is justified by the consideration of a public benefit. Philanthropy may plead for a better compensation to seamstress or scavenger, because of the demands in either case; and those who scant the wages of the workingman or workingwoman may claim plain rebukes from Christian pulpits. But we are after another idea now,—out in a New England pasture.

Our idea is, that he who will show a true and proper way, within the means of the many, to revive the productive power of the pastures of New England, to meet our natural wants in that direction, will be a greater benefactor of the poor than he who makes the best breech-loading rifle, or constructs the best telegraph, or builds a college, or founds an orphan asylum. Those who have thought little about it, may think that this is extravagant thinking.

We have walked among the workers, and looked among the horses, cattle, sheep and children; and the workers on the hill-side have wondered how the pastures could be made productive; the horses, cattle and sheep have shown their hair or ribs in sympathy with our subject; and the little rosy cherub has crowed over the full-flowing pail at milking time. And so our subject is full of the very fat of farming interest and necessity.

We will not—dare not—claim to be equal to the emergency, able to give an answer to those who ask most anxious questions—and mourn over the mosses and other mischiefs of our pasture-picture. We would make haste to seize the honor if we only could. But a few simple suggestions may do some good.

A valued and honorable farmer asked the simple question, "How can I do what is needed to make that pasture productive?" In answer, it was suggested that very much pasture land, that cannot easily be plowed, needs to become acquainted with the power of a *mattock*, until its junipers and similar intruders and nuisances find that "axe laid at the root," to their destruction. Why let a thousand such thieves steal the sunlight and soil-strength from the growing grass?

To find how, best and cheapest, the soil may be made most productive, measure off a narrow strip, say a rod wide, right through the pasture, and set sufficient bound-marks. Make a record of the time of doing it. Then on one rod sow evenly a quart of good, ground plaster, which will be nearly at the rate of 500 lbs. to the acre; on the next rod sow two quarts, the next four, and the next six, and the next eight quarts to the rod,—which would be about equal to one-half ton, or three-fourths of a ton, a ton, &c., to the acre. And if you will, try a mixture of plaster and superphosphate of lime, half and half, a quart on one rod, two quarts, three quarts, four quarts, &c., to the rod, on as many as you like. Make a critical record of all, so that results may be clearly understood. Take also hard-wood ashes, and try a half-peck to the rod, a peck, &c. Also soft-wood ashes, or lime, or any agent within reach, in varied quantities, one, two or any

number of rods. Note the results from time to time, and follow out this simple plan to the practical proofs, and we think it would soon be found that our philanthropy going to pasture was something else than a crazy idea. If not, it would not cost much to test it. And what a man knows, he knows. What he will not learn he cannot know. A. G. C.

*Lee, N. H., Feb.*, 1867.

## HOW TO MANAGE YOUNG LAMBS.

Having had the sole charge of young lambs for several years, and generally very successful, I will give my experience. A young lamb that the mother will not own, and has not strength to suck, I bring into the house, wrap it up in an old blanket, and place it near the fire; then get some ewe milk, warm it slightly, and feed the lamb, a little at a time, (three teaspoonfuls, say,) every twenty minutes, till it begins to revive. I then moisten my finger in the milk, and insert it in the lamb's mouth, repeating this operation until it learns to suck readily. It will then take its milk readily from the ordinary glass sucking bottle, with a nipple used by babies. Care should be taken to feed sparingly; I killed many lambs by overfeeding, when I first commenced raising them by hand.

If you wish to return the lamb to its mother, do not keep it from her too long; return when warmed and its stomach filled, and confine the two in a small pen about four or five feet square —suckle it often, holding the ewe for that purpose. It is a good plan to bring a dog near the pen; the ewe will eye the dog angrily, commence stamping her fore foot, otherwise standing perfectly still, and the lamb, if inclined to suck, will then have a good opportunity. The presence of the dog seems to arouse all the motherly instincts, and she will turn round her head and caress the young one with true maternal regard. By persevering, I never have any difficulty in making a ewe own her offspring.

It frequently happens a ewe will drop twins —one strong and the other weakly; the one most needing her affectionate care will be discarded. It is a good plan in this case, after warming and suckling the weak lamb, (if chilled,) to shut the ewe with it alone, keeping the other away from her. (The dog operation here comes into play admirably.) Do not keep the favorite from her too long, however —not over a couple of hours, say—or she will forget it. In conclusion, I will say, whoever attempts to raise lambs, particularly early in the season, must have a warm building, fronting the south and west if possible, so arranged that the ewes can be shut up in very cold weather—a number of small pens is necessary. I sometimes have a half dozen different lots, all requiring a little different management, and then, most of all, close attention is requisite. Get the young lambs through two days, and the worst is over. When they are old enough to pick at hay a little, place some Indian meal in troughs at the side or end of the building, so arranged by nailing boards in front that only the lambs can get at it. It is astonishing the quantity they will eat in this way, and the extra growth it produces. I should have remarked before, if you intend to raise the lamb by the bottle, give it ewe milk for two days, and after that cow's milk diluted, half water, and warmed to blood heat.

If the above experience of one who has been eminently successful as a *lamb raiser*, is faithfully and patiently carried out, my word for it the next census will show a material increase in the number of sheep throughout the length and breadth of these United States.—*Horace Maticer, Blooming Grove, N. Y., in Country Gentleman.*

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Dairy Products of Vermont.—The quantities of butter and cheese shipped from St. Albans, (Vt.) depot during the year 1866 were: Of butter, 2,617,195 pounds, and of cheese 862,485. The shipments for 1865 were: Butter, 3,035,257 pounds; cheese, 1,174,251 pounds. These figures, at the first glance, would indicate a startling decrease in the dairy productions of Franklin county for 1866, compared with the preceding year. But the St. Albans *Messenger* says the abrogation of the Reciprocity Treaty in March completely cut off for the year an importation of butter for shipment which has been quite extensive. In 1864, when Canadian importations were included, the shipments were: Butter, 2,474,854 pounds. Hence it appears that the butter production of Franklin county alone in 1866 was 145,000 pounds in excess of any previous annual production combined with importations from Canada; while the deficiency in cheese is only 40,000 pounds.

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Swine.—The total hog crop of the West for the winter of 1866 is stated at 1,406,239, as compared with 1,391,518 during the winter of 1865. Chicago packed 382,000 the present season; Cincinnati, 380,005; St. Louis, 136,000; Louisville, 162,000; Milwaukee, 86,009; and Indianapolis, 50,130. In 1865 Chicago packed 501,403; Cincinnati, 354,079; St. Louis, 11,760; Louisville, 91,000; Milwaukee, 92,000; and Indianapolis, 36,000,

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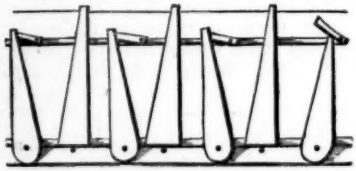
Agriculture in California.—There are now about 4,000,000 acres of land inclosed in California and about 1,750,000 acres under cultivation. These are far larger areas of improved land than was ever before reported. Three years ago the amount of land under cultivation was only 1,107,984 acres. Most of the increase since was made last year. A considerable portion of it was in the larger mining counties, which are beginning to claim import-

ance as fruit and wine growing districts. The area planted to wheat was about 500,000 acres a gain of 200,000 acres in three years. The yield was 12,000,000 bushels, or 7,000,000 more than in 1863. The barley crop also shows a great increase. In 1863 it was about 4,000,000 bushels in twenty-four counties, including all but three or four of the strictly agricultural counties. This year it is returned at over 14,000,000 bushels in forty counties.

## EXTRACTS AND REPLIES.

### STANCHIONS AND STABLES.



I saw in a recent number of the FARMER a plan for cattle stanchion. To this and all other plans which I have used and seen for fifty years, there are more or less objections. The above cut represents a style which I prefer.

Having laid the stable floor, with an inclination of three inches in 12 feet, set off 30 inches from the front or place of feeding, by striking a line; then take two planks 8 inches wide, set them edgewise on this line; put the upright pieces of the stanchion between them, (as seen in the cut,) and spike the plank to the main or long uprights. After rounding the lower end of the short uprights, to prevent clogging with chaff, &c., put a pin through the bottom for them to turn on. Then nail a piece of board 5 inches wide to the main uprights on each side, letting their upper edges come even with the top of the short upright. Now put a latch or fastener between these, back of the short uprights, so that when closed it will drop and make it fast. It is a good plan to run a shaft the whole length of the stable, inside of and at the top of main uprights; then with a string connected to this and each latch or fastener, so that, in case of fire, you can turn the shaft, raise all the latches at once, and rush the cattle out of the stable.

The upright pieces that compose the stanchion are made as follows: Take a plank long enough for the stanchion, which will be about 7 feet, and 12 inches wide. Slit it by commencing three inches from one edge, running to the other end three inches from the opposite edge. Put the wide ends down. The top of main uprights are fastened by nailing a strip of board each side of them to the joist above. The stanchions should be three feet from centre to centre.

This plan is cheap, strong and durable. One man with a little ingenuity can put up in a day enough for twenty head of cattle.

The stable floor should be at least 12 feet wide, with a rise on which the cattle stand of at least 5 inches. For cows, planks for this rise 4 feet long are sufficient. This leaves room behind them for the droppings, and to put sawdust or dry muck to spread over the place at each clearing out of the stable. This last is very essential, and will never be neglected by a good farmer. Saw dust, muck or leaves, will absorb an important part of the manure, which is oftentimes lost.

We want a plan for barns both on level ground and side hills, the expense of which will place them within the reach of farmers of limited means —with cellars, of course. I have plans which I am thinking of offering if no better ones are given by others.

E. P. LUTHER.

*North Dorset, Vt., Feb.*, 1867.

REMARKS.—The foregoing article was written with a pencil. After having been through the hands of engraver and compositor the marks were so badly defaced as to cause the proof-reader much trouble and uncertainty in determining whether our printers have "followed copy" or not, in their attempt to reproduce the facts and figures of our correspondent. Correspondents can hardly appreciate the difficulty of "setting up" a manuscript written in pencil.

### COMPOST FOR A POTATO CROP ON MUCK LAND.

I own a piece of bog land containing seven acres, on which I planted potatoes last year, and I intend to plant the whole field with potatoes this year. The land is well drained, and sanded sufficiently to give it firmness. Was plowed last October, and turned over as mellow as a garden.

I am making a compost from the manure of one horse, a yoke of oxen, and two hogs, and using sand and coal ashes, for an absorbent; but I cannot make enough in this way to manure the whole field. How shall I supply the deficiency? Will coal ashes, plaster and salt make a good compost?

The compost made from my cows, is on the plan recommended by yourself and the Hon. F. Holbrook, of Vt., and published in the "Patent Office Report on Agriculture, for 1856," which I have constantly practiced since, and which I intend to follow, believing it to be the very best way in which muck can be converted into one of the best of manures. This compost I want for my upland, believing it better adapted to such land than to the bog.

If you will give me your advice as to what course to pursue, you will oblige me, and many others who are cultivating such land in this vicinity.

*No. Tewksbury, Mass.*, 1867. THOMAS BRIDGE.

REMARKS.—We are glad to learn that you have succeeded so well in composting and using muck. Green crops plowed under, and a plentiful use of muck, may be made to convert most of our New England lands, hard and repulsive as they now are, into pliable and fertile soils.

Coal ashes, plaster and salt, with muck would make a valuable top-dressing for grass lands not so far run out as to be nearly exhausted of roots. Perhaps it would bring a fair crop of potatoes in a bog that had been cropped only one year. If you dissolve potash, at the rate of one pound to the square rod, and mix it well with the ashes, salt, plaster and muck, you will scarcely fail of securing an abundant crop. Common nitre (saltpetre) may answer the purpose instead of potash. For an acre, 200 lbs. would undoubtedly be better than 160 lbs. The crop of potatoes might not be larger, but future crops would feel its force for several years.

### BONE MEAL.

I have read with interest the correspondence in the NEW ENGLAND FARMER of late, relating to bone meal, and should be glad to see the subject more fully discussed, and experiments with the article, as a fertilizer, more generally reported through the press. Every farmer is more or less

interested in the subject of manures, whether they be *special* or otherwise; and such facts and experiments as prove and test their worth as fertilizers, are especially important. Guano, phosphate of lime, and other patent manures have been very generally used for years, and in many cases are considered profitable.

Bone, as a fertilizing agent, has long been used in the old countries with success; and with the machinery and facilities for crushing and grinding, now possessed, it will, without doubt, prove a profitable fertilizer to the agriculturists of this country. And here let me remark, that a machine has been invented, and is now in successful operation, at the *Vermont Bone Works of Paddock, Dean & Co.*, St. Johnsbury, Vt., by which bone is ground in its natural state, and fitted for either fertilizing or feeding purposes. I refer to Dean's Patent Bone Mill, the size of which is 10x17 inches, and its weight ten hundred pounds. It requires from four to six horse power, and will cut from one to two tons of bone per day. It is very simple in construction, and can be readily attached to any steam or water power machinery.

I enclose a specimen of the bone meal as received from the manufacturer, which they warrant to be pure, unburnt, unadulterated bone. Our farmers are using it to some extent with very satisfactory results. I understand the company have machines and patent rights to sell, which they would do well to advertise in our agricultural papers; for it is through such a medium that the progressive, business farmer is reached. I. W. Sanborn.

*Lyndon, Vt., Jan.*, 1867.

Remarks.—The bone sent us looks as though it were *rasped*, instead of ground, but is sufficiently fine readily to pass into the fermentative state, under favorable circumstances. We are glad to learn that mills for reducing bones are in operation so far in the interior. They will be the means of preserving and bringing into use large quantities of one of our most valuable fertilizing agents.

### COMPLIMENTARY—FLOUR OF BONE.

I have long owed you a communication. I have prepared a hundred articles in my mind for your paper, while about my work, which increasing cares and a decreasing inclination to write, have prevented your seeing. Meantime the Farmer has continued a welcome visitor. It is now a handsome paper. The type is of refreshing clearness. It is well arranged. The Market Reports are full and valuable. I have often been guided by them in selling and buying, to my advantage.

I wish more people would advertise in your columns articles and animals that farmers want. Such notices are interesting to read, and bring profit, sometimes, to all concerned. I never buy famous medicines, nor believe parties pay such tremendous wages to "active" young men!

That communication from Rufus Nutting, giving the results of experiments with the flour of bone, interested me a good deal. It seemed a fair and candid statement, and was not flattering to the article. Still, I do not think those experiments were conducted so as to show the value of flour of bone. It does not appear in any case that the bone was fermented, or digested, before using. I understand that, when applied to crops in a crude state, it is not plant food. Dr. Nichols, in his late excellent lecture before our Lyceum, said he mixed it with diluted sulphuric acid. Whose practice is the necessary one, that of the chemist or that of the unbenefited Vermont farmer?

I want very much to have the flour of bone prove a most valuable article. I have an interest in some distant land to which it is not expedient to team heavy manures, and a condensed fertilizer would be just the thing. W. D. Brown.

*Concord, Mass., Jan.*, 1867.

Remarks.—How many articles "prepared" for our columns, in this way, are every year lost to the world!

### EARLY POTATOES.

What is the best kind of early potatoes for a climate similar to Boston? The price of them a bushel in Boston? The best kind of manure, phosphate of lime or fish guano? The number of pounds to an acre, and cost of it.

Franklin W. Carson.

*North Oxford, Mass., Feb.* 13, 1867.

Remarks.—We do not know which the best kind of early potato is. We heard the question discussed at a farmer's club, and scarcely any two were agreed upon it. There are as many prices as there are kinds, varying from $1 to $3 per bushel. The Early Goodrich, new and in great demand, $3; Sebec, $2; Early Jackson, $1.

The kind of manure used ought to depend, in a considerable degree, upon the kind of land on which they are planted. If low, heavy land, use coarse, unfermented manure. If dry, use fine manure. In either case, a handful of plaster of Paris in each hill, will prove of service.

No experiments have been made, to our knowledge, between superphosphate and fish guano, for potatoes. Try both, at the rate of 400 pounds per acre.

### A VERMONT HORSE.

Mr. Wm. W. Day, of Lunenburg, Essex County, is the owner of a gelding horse of the French Morrill blood, that was four years old the 22d day of last June, and weighed the 1st of December, fifteen hundred and fifty pounds. This colt is a bright bay, black mane and tail, good style, and stands seventeen and a half hands high. Whose colt beats this? F.

*Lunenburg, Vt., Feb.* 16, 1867.

### FEEDING COWS AND HOGS—WOOD FOR TROUGHS.

How much corn meal can be given to a milch cow daily, with safety? Can shorts be given to a cow without injuring the butter?

Can oil cake be given without injuring the cow?

Does corn fodder, fed to a cow green, increase the quantity or improve the quality of her milk?

What kind of wood is best for a hog's trough, and for the flooring of their pen?

Is it judicious, in fattening hogs, to keep them wholly on a plank floor, to prevent their rooting?

If hogs are salted alive, should the salt be given to them clear, or mixed with their food?

If the latter, in what proportion?

When hogs are kept almost wholly on meal, should much liquid be given with the meal?

*Derry, N. H., Jan.* 4, 1867. E. B.

### BEE CULTURE.

I think the best hive is one about 30 inches high, and one foot square, with two draws in the upper part, four inches high and six inches wide, with a glass in one end of the drawers. The hive should have two fly holes, one at the bottom, the other about eight inches above. The lower entrance

should be cut in the bottom board and slant up into the hive. This gives the bees a better chance to defend themselves, and keeps the water from running into the hive. The fly-hole should face the west, summer and winter. If it faces the south or east in summer, the bees are tempted out too early and get wet with dew, and fall to the ground and perish. In winter, the sun shining on the fly-board excites the bees, causing them to sweat, and increasing the liability to freeze and perish on the return of cold. Both fly-holes should be closed in winter by tacking tin over them with little holes made through it. N. S., JR.

*February* 4, 1867.

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### WINTER.

When storm-cloud, with its flakey wing,
Veils noon-tide ray to half a night,
And darkness, with its snow-hid track,
An hour too early shuts the light;
From outer world and work we come
To the defences of our home.

Crackling fire and hearts contented;
All the armor that we need;
Busy group with cheerful faces
Listens what the dame may read;
So glad the "FARMER" came the day
Before the snow-storm blocked the way.

*Vermont*, 1867. E. E.

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### THE SICK COCKEREL.

I noticed an inquiry concerning a rooster which had lost the use of his legs, and would recommend that he be kept in a moderately warm place, and fed three times a day with a dough made of one pint of Indian meal and one teaspoonful of red pepper. Also rub his legs with camphor once a day, and I think he will get well soon.

A. L. BARNES.

*South Barre, Vt., Feb.* 18, 1867.

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### CURE FOR CHILBLAINS.

Wet the stocking over the parts affected with spirits of turpentine, and wear as usual. My neighbors have tried it with good success.

BENJ. SARGENT.

*Grantham, N. H. Feb.* 5, 1867.

REMARKS.—We think it would be well to be careful about the quantity used in "wetting the stocking."

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### CULTIVATION OF CRANBERRIES.

In reply to "E. E. A." I would say that to grow cranberries you want, in the first place, a meadow that you can flow in a few hours in the fall of the year to keep the frost off. If you have not got this, you can raise them without water. If you have the water, make your meadow as level as you can, so as to require as little water as possible to cover it. Then ditch it dry and take off the top surface, or turf it as it is called. After this spread on sand, not gravel, two or three inches thick. When you select your vines get those that bear from the root to the end of the vines, not those that bear on top only, and set them out in rows two feet by six. They should be hoed so as to keep the weeds out until the vines cover the ground. N. S., JR.

*Milford, Mass., Jan.* 8, 1867.

REMARKS.—The use of water is about as important in the *spring*, to prevent frosts, or in the early summer, to destroy the eggs of the insect that infests them. This insect is very much like the common apple worm. It attacks the *new* growth at or about the time of blossoming, commencing at the base of the new and working upwards. Its presence may be known by the appearance of a fine web which encircles the upper portion of the plant. The FRUIT WORM is the most destructive, making its attack on the berry about the last of July or the beginning of August. This is another time when the use of the water is important, and, indeed, is the only remedy known to save the vines and fruit from these two insects. But the *flooding* must be done with care. If the weather is hot, it will not do to leave the water on long, as it will become warm and rot the vines. From 24 to 48 hours will probably be enough to drown out the insects. The temperature of the water must be tested by placing the hand in it. The appearance of the web, spoken of above, will indicate the time for flooding.

The plan suggested by our correspondent seems to us a judicious one. See an article in another column on the subject.

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### GRAFTING.

Will you please inform me through your valuable paper how and when to graft apple trees, what time of the year to cut scions, how to make grafting wax, whether it would be best to graft old trees that are in a good condition, and if it would be best to scrape the rough bark from old trees, and when to do it? A SUBSCRIBER.

REMARKS.—There are various styles of grafting, but the "Cleft," as seen in the margin, is the most common. Mr. Cole, in his Fruit Book, gives the following directions:—

"Saw off the stock with a fine saw, and pare smoothly with a sharp knife; then split the stock with the grafting-knife, and open it with the wedge on the same. Or a common knife and a wooden wedge may be used. Sharpen the scion on both sides, with a straight scarf like a wedge; let the scarf be about 1½ inches long, more or less, according to the size of the scion and the splitting of the stock, making the scarf of the scion as long as it can be conveniently fitted to the stock. It is best

for the stock to cover, or almost cover, the scarfs on the scion. The outer part of the scion should be slightly thicker, to make a close fit there. Leave two buds on the scion, setting the lower buds just below the top of the stock. Adjust the scion so that the joint between the bark and wood, in the stock and scion, will exactly correspond; this is important, as that is the place of union between them. This done, withdraw the wedge, and apply the cement or clay. In cutting scions, reject the butt, as the buds start reluctantly or not at all, and reject the top also, as it is too soft, or may be winter-killed.

Scions may be cut at any time from November to the time when the buds begin to swell in the spring. The best time, perhaps, is a few weeks before setting and the swelling of the buds. They must be kept moist, by rolling in a damp cloth and laid in the cellar. April and May are the usual months for grafting.

To make grafting wax, take 1 part good beef tallow, 2 parts beeswax, 4 parts white, transparent rosin, melt all together, turn into cold water, and work and pull it thoroughly, as shoemaker's wax.

If used when the weather is cold it must be kept in warm water.

If the trees are thrifty they will not generally need much scraping; if they are not thrifty it will be labor lost to graft them.

### ABOUT SETTING HENS.

In reply to inquiries from "S. A. A.," of North Easton, we would say, we think that hatching out and bringing up one brood of chickens is enough for one hen to do in that line, in one year. Sometimes they will bring up two broods, but often fail, and are worth little after the second attempt.

Some hens wish to set three or four times a year, and various means are resorted to, to prevent it—such as shutting them in a dark place, tying the feet within two or three inches of each other for as many days. Some practices are resorted to which are cruel, such as plunging them into cold water, or withholding all food from them for a time.

Do not allow a hen to set in the same nest where a brood has just been hatched out, without first cleaning it out in the most thorough manner, and washing it out with ashes and water or strong lime water.

Hens may go to setting now, if a warm place is provided for them, and for the chicks when they come out.

Eggs are much more certain to be hatched if the nest is large and composed, at the bottom, of earth, and then lined with a little soft hay or straw. When hens steal their nests, they usually place their eggs upon the ground; this becomes so thoroughly warmed that when the hen leaves the nest, for food and exercise, the heat from the earth is imparted to the eggs, and keeps them warm until the hen returns to them.

### A CROP FOR AN ORCHARD.

I have a young orchard of one acre of land; the trees shade most of the ground. It has been grassed over for four or five years. Last fall I had it plowed. What crop can I put in that will be the best for the trees, and return me the most for my labor? I have plenty of manure for the land—how shall I use it? A SUBSCRIBER.

*Quincy, Mass., Feb.*, 1867.

REMARKS.—Hoed crops would be better for the land—such as potatoes, cabbages, carrots, &c. If you apply plenty of manure, a grain crop of barley or oats would not injure the trees. We have known sweet corn to be sowed broadcast, and harvested for fodder in a green state, or cut up and dried for winter use, and with excellent results. If you have cows giving milk—and especially if a little short of pasture—perhaps the best thing you can do with the orchard will be to put in a crop of corn for fodder.

### LEASING FARMS.

A few weeks ago I noticed a very well written article on the subject of tenant farming in this country, somewhat after the plan practiced in England. Now if any one believes that the thing is practicable in this country, and I see no reason why it should not be, I hereby offer a good farm of 100 acres in Massachusetts, sufficiently remote "from town" to give cheap land, and at the same time within four miles of as good a market, as there is in that State, to any responsible man for experiment, for from one to five years, on a lease at 6 per ct. per ann. on valuation, and all taxes. He may do what he pleases with the farm and its products, the same as if they were his own. The valuation of farm and improvements may be made by three disinterested men. Here is something tangible and practical on the subject, and is intended not as an advertisement, as I do not care to lease the farm, but as a test of the faith of anonymous contributors, who are pleased to air their theories in the public journals from time to time, and to intimate to them that to be of value their suggestions must be practical, and that they should also be able to find those who will practice them.

J. GEO. HUBBARD.

*Derry, N. H., Feb.*, 1867.

### HEN MANURE, WOOD ASHES, RICH LAND.

Some time ago I asked what I should do with some five barrels of hen manure—the clear droppings of the roost. In your "Extracts and Replies" you advised putting it in the corn hills at planting, &c. When I made the inquiry I stated that I cultivated but a *small* garden, &c.

Now I have ten barrels of manure, the same garden, *no corn field*, and raise what they call in York State, "garden truck," viz: peas, beans, potatoes, asparagus, tomatoes, melons, cucumbers, turnips, mangolds, carrots, and parsnips, etc., etc., and about twenty hills of sweet corn. I have too much manure for the twenty hills of corn. What shall I do with it? I wish to use it about the garden if I can do so to advantage. What is it worth per barrel to sell to green-house gardeners or others?

What is the best thing I can do with good wood ashes? I have one hundred bushels, and the garden before mentioned, which is old and rich, has been for years stuffed with good manure,—as the hay fields have been also. One of the fields is usually too wet in the spring to cart on the manure without "cutting it up." RALPH.

*Randolph, Mass., Feb.* 10, 1867.

REMARKS.—Sell the hen manure. We do not know what it is worth. Sell the wood ashes. The ashes are worth $30 for the hundred bushels, and haul them some distance if they are pure. Can it be possible that you are correct? That there is one piece of land in Massachusetts that does not need manure! Even on an old, rich garden, we should suppose wood ashes would prove profitable, unless it had been dressed with them frequently.

### CURE FOR THE LAME FOWL.

In reply to an inquiry for a cure of a Brahma fowl that lost the use of his legs, I will say that I have had many chickens that were hatched early, say in February and March, and kept in the coop till May, as well as those three or four years of age, lose the use of their legs. I have cured them in a few days by separating them from the other fowls and putting a few drops of Iodine in the water. Of late I have kept iron, such as old nails and pieces of iron hoops, &c., in their water, and have not been troubled in this way since I adopted this plan. JAMES BUFFINGTON.

*Salem, Mass., Feb.* 23, 1867.

### VERMONT WHEAT GROWERS.

I wish some of our Vermont farmers would give us some information relative to wheat growing in

Vermont, telling us whether winter wheat or spring wheat succeeds best—and put their names to their communications, so that we can correspond with them, and buy some of their wheat for seed. Since flour has gone up to sixteen and eighteen dollars per barrel, it is time for farmers to try to help one another; for, with present prices and high taxes, I am fearful we shall drift on to breakers, especially if our representatives, as in Massachusetts, vote themselves $300 per session.

Caleb E. Parmenter.

*Attleboro', Mass., Feb.* 21, 1867.

## CHEESE-MAKERS' ASSOCIATION.

The third annual meeting of the Massachusetts Cheese-manufacturers' Association, was held in West Brookfield, on Thursday, Feb. 24, Capt. Hollis Tidd, President, in the chair.

Officers elected for the current year, were, for President, Hollis Tidd; Vice Presidents, D. S. Ellis, Warren, and J. F. Davis, Barre; Secretary, N. S. Hubbard, Brimfield; Treasurer, B. F. Hamilton, New Braintree. The Executive Committee is constituted of the foregoing list of officers.

Reports were received from Barre Central, Barre South, Hardwick Centre, Hardwick South, Petersham, New Braintree, Worcester Co. in Warren, and South Adams Factories. We give the two following as specimens:—

*Barre South.*—Capital, $5053; began making April 24, and ended Nov. 8; amount of milk 707,297 lbs.; lbs. of milk to a lb. of cheese, 10.46, or nearly 10¼; cheese kept before sending to market on an average about 55 days; size, 853 weighed from 70 to 80 lbs. apiece, and 726 from 18 to 22 lbs.; help, 1 man and 1 woman, at a cost, including board, of $575.93; cost of making per 100, $1.03; amount of cured cheese, 67,570 lbs.; av. number of cows, 175; lbs. of cheese per cow, 406; av. market price, $19.85 per 100; net return to farmers, $16.92 per 100 lbs.

*Hardwick South.*—Capital, $4500; began making May 10, and ended Oct. 15; amount of milk 722,526 lbs.; lbs. of milk to a lb. of cheese, 10.3, a little over 10¼; cheese kept before marketing, from 3 to 6 weeks; help, 1 man and 1 woman, costing $511.56; amount of cured cheese, 70,963 lbs.; net return to farmers, $15.60 per 100.

*Process of Manufacturing*, as stated by Mr. Green, of the New Braintree Factory, was as follows: Heat the milk before putting in the rennet to 84 degrees; then let it stand from 1 to 1½ hour before crossing; cross and let it stand 15 or 20 minutes, then break up the curd carefully with the hands and heat to 90° to 98°, and cover up warm and let it stand until cooked; then dip out into a sink and let it drain dry and salt at the rate of 2 7-16 lbs. per 1000 lbs. of milk, then press 24 hours.

Facts or statements came out in the discussion, incidentally, of great interest, such as this: a man who kept three cows, sent his milk to the factory, who got but $20 return for them before, per annum, got $40 return per cow after sending his milk to the factory. Mr. Greene, of New Braintree, made some interesting statements on this point, such as it took a lb. less milk at the factory than in the house dairy at home. His statements were founded on actual experience, and are therefore worthy of consideration. One gentleman stated that the net return to the farmer from the milk sent to the factory would exceed what he could get from the cheese made at home; thus showing the labor of home-making, with rennet, fuel, marketing, &c., may be reduced to that of carrying the milk to the factory, and he be the gainer. It was also stated that those factories which made the smallest sized cheeses returned the largest amount of profit on the milk used.

The Convention was well attended and harmonious in its action, which, taking it all in all, was by far the most profitable meeting of the association yet holden, thus demonstrating that the association of those engaged in associated labor tends to promote progress and improvement by the diffusion of useful knowledge.—*Boston Cultivator, abridged.*

New York.—At the Winter Meeting of the New York State Agricultural Society, at Albany, Feb. 13, the following officers were elected for 1867.

*President*—Gen. Marsena R. Patrick, Ontario.
*Vice Presidents*—Thos. H. Faile, Jr., New York, and seven others.
*Corresponding Secretary*—Benj. P. Johnson, Albany.
*Recording Sec'y*—Erastus Corning, Jr., Albany.
*Treasurer*—Luther H. Tucker, Albany.
*Executive Committee*—Geo. H. Brown, Duchess, and 7 others.

As usual at this meeting, premiums on grain, roots, butter, fruit, &c., were awarded. X. A. Willard, Esq., delivered an address on English farming.

Hops.—Mr. Z. E. Jameson, of Irasburg, Vt., writes to the *Country Gentleman* that a field in that town which produced 2000 lbs. in 1865 yielded only 200 lbs. in 1866. In years past roots were given away. Now they cannot be obtained without difficulty in sufficient quantities to replace the dead hills. The runners which are cut up into sets seem diseased. Whether this state of things is wholly the effect of lice or partially the result of cutting the vine before the hop is fully matured, causing it to bleed and exhaust the root somewhat, I cannot say. There seems to be a prospect that this branch of agriculture will soon become extinct, unless the causes which have proved so detrimental can be removed.

—It is no uncommon thing in Scotland for farmers who enter upon a lease of 19 years, to invest some $50 to $75 per acre on drainage, liming and other improvements.

DURHAM BULL---CHICAGO DUKE.

Five years ago the range of prices on beef cattle at Brighton, as stated by our present reporter, was $4.50 to $6.50 per 100 lbs.; last week it was stated by the same individual at $10.50 to 14.00—the average price being now more than twice as much as it was five years ago. It may also be remarked that the present high rates have been firmly maintained for about a year and a half.

Five years ago mutton sheep were reported by the same authority at $4.25 to $5.75 per 100 lbs.; last week $4.00 to $7.25—a comparatively small advance.

In England, previous to the great disturbance of prices by the sad effects of the cattle plague, beef had been gradually but steadily advancing for a series of years, while wheat has been as steadily declining in price, during the same period.

Statistics which we need not hunt up, as the fact is obvious to the most careless observer, show that in the Eastern portion of the United States, cattle are decreasing nearly as fast as population is increasing. In 1862 there were 35,405 head of cattle from the Western States sold in Brighton market; in 1866 the number

was increased to 68,661,—nearly double, although large numbers were received from the Northern part of New York, from the Canadas and New Brunswick.

Are not these considerations sufficient as a hint to the wise and thoughtful farmer? Have we not, here in New England, in the laudable ambition to increase the production of wool and other necessaries of life, overlooked in too great a degree the wisdom embodied in the proverb, that "Much increase is by the strength of the ox?" A few far-seeing individuals among us—the Chenerys, Whites, Loomises, Langs, Andersons, Meeches, Hydes, Eames, Pierces, Winslows, &c., &c., seem to appreciate the importance of stock raising to the prosperity of the New England States, and are quietly preparing the means for a great improvement in this branch of farming, when the attention of agricultural societies and of individual farmers shall be turned to this subject,—when, in fact, the agricultural press shall give the breeding of stock that prominence in its columns to which it is entitled, as compared with poultry-raising, bee-keeping, &c., &c.

The farmers of the West are engaging very extensively in the improvement and feeding of neat stock. The fine animal illustrated by the above engraving, was bred by R. A. Alexander, of Kentucky, and introduced into Illinois by Hon. John Wentworth, editor and Congressman, as well as stock-breeder, near Chicago. The "Chicago Duke" is a good specimen of the Durham race, and of the "Western Steers" of Brighton market.

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MASSACHUSETTS STOCK.—We learn by the *Country Gentleman* that H. G. White, South Framingham, has sold to Mr. G. I. Seney, New York, the Short Horn cow Hope, by imported Usurper 3522, out of imported Hopeless by Horatio (10,385,) having by her side bull calf, got by 9th Duke of Thorndale 5609. Also, to W. Brown, Hampton Falls, N. H., Lottie by Garibaldi 3948, out of Arabella 7th by Double Duke 1451½, and Inda 2d by Lord Derby 4949, out of Inda by 4th Duke of Airdrie 3842. Also, to G. H. Bartlett, Alleghany Co., Maryland, five head of South Downs, bred from Archbishop stock, and a Scotch Colley dog. Also, Colley dogs to B. T. Hutchinson, Suffolk Co., N. Y., and F. L. Blandy, Ohio.

## FARMER'S GARDENS.

NUMBER ONE.

HOPING that some thousands of our New England farmers may be induced to lay out and plant a garden, that shall continue, not only to bless themselves and their households, but to bless their children and children's children for ages to come, we propose to publish, between this time and that for working and sowing the garden, several articles on the subject of *Farmer's Gardens*.

We cannot, in a few brief editorial articles, enter so minutely into the details of gardening as we should be glad to, but shall endeavor to give such plain suggestions as will enable those who have an interest in the matter, to go on understandingly.

A good vegetable garden is conceded by most farmers to be both *convenient* and *profitable*, and yet comparatively few farmers have one. The reason usually given for this neglect is, that they do not have time to attend to it. The *truth* in the case is, that the garden requires a little care daily, and demands thought, patience and system, in order to secure success and profit. Unhappily, these are just what most farmers dislike, preferring to tend the larger crops, where little thought, but more muscular power is required. They would be glad of the rich products of the garden upon their tables, and of the pleasure, health and profit which they would yield to the family; but the habit of neglect in this particular has become so deeply implanted in the minds of the people that no common influence will break it up. With the settled conviction that half an acre devoted to garden culture would annually produce more profit than four or five times as much land in any of the other crops of the farm, thousands of our farmers still remain without a kitchen garden, even, that is worthy of the name. It would seem that pecuniary interests, and the comfort and health of the family would overcome the dislike to cultivate a garden; but the aversion to systematic care overrides all these considerations, and the garden remains only in anticipation, or, in some out-of-the-way place, it consists of a few rows of potatoes, onions and beets, with a few sage

roots and a swamp of weeds, whose only redeeming feature is the presence of winter birds in search of a daily meal of seeds. Without a garden, the winter diet of the family must be mainly confined to bread, meats and potatoes. When warm weather returns, the system requires less stimulating food and demands cooling and juicy vegetables fresh from the soil. There are many farmers who have no garden—not even an apology for one. We knew a case where the wife of a farmer worth ten thousand dollars, went to a neighbor's garden to beg a few fresh vegetables when company was expected. Thousands of farmers' tables are rarely graced with early vegetables, such as lettuce, radishes, early beans, potatoes and peas, when they might be crowned with all the vegetable luxuries peculiar to each season by a little labor and systematic care.

An observing gentleman from another State in writing us on this subject says:—

"No part of the farm pays as well as the kitchen garden, if well taken care of. I do not mean by this that every farmer can make money by raising vegetables for market, because that is impracticable, but it is a self-evident fact that the farmer must procure the support of his family from his farm, and a well conducted garden will produce more towards this than any other part of the farm of four times the extent.

The use of vegetables and fruit as a diet is said by medical men to be conducive to health, and as most people, and especially children are fond of garden fruits, it is policy for every farmer to provide a plentiful supply for home consumption. It would seem that people having all the conveniences that farmers have, as regards land and plenty of leisure time to take care of a garden, would be the ones that would consume the most of such things; but it is true that the people of cities and villages use more vegetables than the same number of land owners. Take a look among the farmers, and you will find that one-half of them have no garden at all, or at most, a little corner in the grain field which is overrun with weeds. Others have a place set apart for the purpose, but do not get time to do anything in it until all the spring farm work is done, thereby making it too late to secure any of the vegetables requiring early planting, and destroying the possibility of getting early kinds. This is a great loss, when we take into consideration that such things are relished a great deal more in the hot weather of June and July, than later in the summer. What is more aggravating than to know that one's neighbor has green peas, new potatoes, string beans and the like, and his own but just up, and all through his own neglect by not planting in season.

And so the farmers' wives and daughters, who, during the first two or three months of summer, have to rack their brains to think of something to get for dinner, which the men can eat—for when they come in from the field, weary with labor, their stomachs are apt to revolt at salt pork and old potatoes. But if there are early potatoes, peas, beans and other vegetables in the garden, they know just what to get for dinner, and when the workmen come in, they eat with a relish, and nothing does the faithful wife more good than to see her husband eat the food she has cooked for him, as if it tasted good.

The garden should be near the house, as housekeepers do not always have time to go far; and if it is close by a great many leisure moments can be spent in weeding, &c., which could not be done if it is remote."

The garden should also be enclosed, so that fowls and other stock cannot enter it. No success can be reasonably expected if fowls are allowed to range in it, as their instincts lead them to the freshly-moved soil for some of their most essential food. They are, therefore, always ready to scratch where the gardener has just fashioned his new beds, planted his choice shrubs or scattered his early seeds. If enclosed, the space alongside the fences may be occupied by raspberries, blackberries, tomatoes and other climbers, which will also serve the double purpose of a shelter to more tender plants. If there is a path between these and the more central portions of the garden, these climbers can be conveniently cultivated from it, and their spreading easily prevented.

"The manure for the garden should be well rotted, and if allowed to remain in a vault or cellar through the summer, all seeds would be killed, thus saving a vast amount of work in loading. Apply the manure in the fall, and plow in immediately, plowing again in the spring, which thoroughly mixes it with the soil. As soon as the weather will permit, plant early potatoes, peas and all kinds of early vegetables, which are not liable to be killed by frost, putting in others along as the season will permit, and when they come up, keep them well hoed and free from weeds, and you will have the satisfaction of having something good as well as your neighbor." When this work is performed early and faithfully it will be altogether more easy to continue planting as the season advances, and to keep the whole in good order. Indeed, when the commencement is thorough, it greatly aids all future operations.

*For the New England Farmer.*

## EXPERIMENTS WITH SPECIAL FERTILIZERS.

It is a difficult task to conduct successful experiments with animal and vegetable life and give them to the public in a clear, accurate and definite form. The novice is little aware how easily he can prove a falsity, how liable to confound himself and mislead others. An experimenter should first acquire some knowledge of the subject he has in hand. He should be a close observer, a patient and diligent searcher for truth, free from prejudice, and open to conviction, as well as comprehensive and accurate in reasoning. With all these qualities, experience increases the power of determining the truth. The agricultural works of this country are deficient in carefully conducted experiments in all departments. The boards of agriculture and managers of our various societies would confer favors upon their constituency, if they would make, or cause to be made by competent persons, experiments of the many new things now urged upon the patronage of farmers, and fearlessly publish the results; or if they would give some simple and explicit directions to those who choose to investigate for themselves.

A large share of the disappointment and many of the conflicting results with the special fertilizer of the day, arise from very imperfect trials. Either the premises are wrong, the details or attending circumstances neglected, or the conclusions are inaccurately drawn.

Take, for example, what is now attracting public attention, "Bone Flour." I know of one instance where it was tried without apparent benefit upon a mowing field which is kept in high condition, and where the grass was cut early; and of another, with like results, upon a market garden, where the land receives heavy dressings of stable and vault manure combined, and where the crops are taken off early. In both these cases the experimenters condemned bones in toto, declaring "bone manure not worth a cent, and they would not apply it if given to them." In both these cases it is plain that the mode of cropping does not take from the land much phosphate of lime, and consequently the very liberal applications of the richest manures supplied all that was wanted.

Again, some have the idea that the flour of bone is intended for a substitute for barnyard manure, and try its effects accordingly. They deal out a spoonful or two in a hill, in one row, manure or wood ashes in the next row, and so on. They look for results in the stalk and leaf; and seeing the great difference in favor of manure, force the conclusion at once, that their land does not need bones.

A slight knowledge of chemistry, which may be acquired in the field as well as in the laboratory, shows that bones or phosphate of lime is highly important in the growth of plants, and through them to animal economy. But it is only a small part of the plant. Other elements are necessary to the formation of the plant than those which bones furnish, or which they can produce out of the soil by any action they may have upon it. It would be as reasonable to expect a child to thrive upon sugar, starch, or butter alone, as plants to grow from the mere application of bone flour. It was never intended as a substitute for barnyard manure. It is only a help, being an expeditious and economical way of returning to the farm what has been carried away in products sold. While the ammonia in guano, and some other commercial fertilizers, goes to form the blade, stalk, and leaf, phosphate of lime develops the fruit, seed and grain,—it tends to perfect the plant, rather than build its fibre and cellular structure; hence its benefits are not so easily determined by the eye. It acts slower than ammonia, and one year is not sufficient to test it, especially if the season is dry. Plants, like animals, require a limited amount and all in excess is rejected, and disappointment will follow large applications, if immediate returns only are expected.

It would be difficult to give rules by which it could be determined what field would be benefited by it; though it is obvious that light and poor soils are sooner exhausted of this element than heavy, retentive and rocky ones, but much depends upon the kind of crops raised and sold, and the mode of cropping. Though exhausting crops are continually raised, there will be little impoverishment of the land if they are spent upon the farm. When seeds, grain, milk and animals are sold year after year, the phosphates are taken away in large quantities. Such farms ought to show good results from their return.

For convenience in experimenting with bone flour, it is advisable to mix it with muck, sand or any kind of dry fine soil. On grain, hay or pasture lands, apply as early in spring as possible. Sow it on a strip across the field. If there are variations in the soil, the strip selected should cross them so as to embrace a part of all kinds. With hoed crops, mark out two equal lots in a favorable part of the field. On one, apply nothing; on the other, sow the mixture broadcast or in the drills. Determine the results or increase, by measure and weight. Trying wood ashes or stable manure at the same time, and comparing their results with that of bones, has nothing to do with the experiment, and is apt to detract the attention from the main point, which is to ascertain how much more land will yield with bone flour than without it. If any benefit is found, a liberal application ought to show good effects several years. Its action and nature prove that it is intended for occasional, rather than constant use. The same may be said of some other special fertilizers, as plaster, salt, &c. It has frequently happened that a slight application of these articles has produced good results; larger and

more frequent applications were given, with the expectation of corresponding increase of crop; no such increase was obtained, in fact their action was soon imperceptible; and disappointment and general distrust in all special fertilizers were the natural consequence. In accounting for failures of this kind, may it not be safely inferred that the land had received a sufficient quantity of these particular elements, and no excess could stimulate the plants to greater growth.

These thoughts are suggested by my own attempts at experimenting, and reading and studying the efforts of others, and are offered to my brother farmers, simply to show that experiments, unless most skilfully conducted, are of no value, however honest may be the motives that actuated them, in giving them to the public, every circumstance that can possibly influence the result should be carefully stated, that all may draw their own conclusions.

*Jan.*, 1867. N. S. T.

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Goitre.—A correspondent of the *Rural New Yorker* in Oakland County, Mich., lost most of his lambs in 1862, by goitre, and three quarters of them in 1863. Attributing it to feeding too much corn he changed the feed to oats, but the disease contined just as fatal. The next winter he gave no grain to his ewes, but fed them ruta bagas, and lost about half of his lambs. During all this time the ewes were kept closely yarded, having an open shed, and were let out of the yard half an hour each day. Thinking that perhaps they did not get sufficient exercise, he, in the winter of 1866, when it was not too cold, daily turned them several hours on an old meadow, forty rods from the barn, where they could get considerable green grass. He thus sums up the result:—"A few old crones died and I cannot keep my sheep in quite as good condition as before, but I lost but four lambs out of eighty from goitre—though most of them had it very lightly."

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The same amount of study, tact, talent, energy and enterprise that suffices to make a man moderately successful in a professional or a mercantile career will place him in the front rank of the tillers of the soil.

This item is going the rounds of the agricultural press. We wonder at it, for we do not believe it is true. On the contrary we think it would be full as correct to transpose the sentence and say, that the same amount of talent, tact, industry, energy, economy and enterprise that suffices to make a man a moderately successful farmer would place him in the front rank of the professional or mercantile classes. And we appeal to the history of those who have left farming for the professions, and to that of those who have left the professions for farming, for confirmation of the truth of our version.

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Addison Co., Vt.—At a meeting of the agricultural Society of this county, at Middlebury, Jan. 23d, Victor Wright, of Middlebury, was elected President; H. O. Gifford, of New Haven and E. S. Stowell, of Cornwall, Vice Presidents; Geo. Hammond, Middlebury, and A. J. Child, of Weybridge, Secretaries: Edward Vallette, Treasurer.

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Board of Agriculture.—His Excellency the Governor, with the advice of the Council has appointed Louis Agassiz of Cambridge, and William S. Clark of Amherst, to be members of the State Board of Agriculture of the State of Massachusetts.

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The Mothers.—The Vermont *Farmer* says that Mrs. Hannah Brown of St. Johnsbury, who is in her 68th year, has, during the past season, besides doing her own work and a great deal for others, spun 68 skeins of yarn, and woven 400 yards of cloth, and that Mrs. Betsey Church of Chester, 74 years of age, has spun 350 ten-knotted skeins of woolen yarn within the last four months.

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*For the New England Farmer.*

## NOXIOUS ANIMALS, INCLUDING INSECTS.---NO. I.

BY I. B. HARTWELL.

However it may be in other sections and other countries, in New England we suffer but little from the depredations of the larger wild animals, while some of the small vertebrates, especially the rodents, are quite troublesome; and that class of the articulates called insects, are yearly making such insiduous and extensive inroads upon vegetation as to excite alarm lest these implacable and uncompromising foes shall at length become our conquerors and masters.

We find in a late number of the New England Farmer, the statement, "that $300,000,000 a year will not cover the damage done to farmers in this country, by insects alone."

But before speaking more particularly of obnoxious insects, we have a word for the rodents; and because in the Norway rat, *Mus Decumanus*, culminates all the villanies of his

genus and order, we will take him for the principal subject of our first two numbers.

If a civilized, merciful and Christian man can possibly have an enemy so detestable and vicious that he would be justified in seeking to destroy him by the aid of cats, dogs, weasels and ferrets; by all kinds of traps and snares; by poison, by fire and water, by starvation, fright and torture; such an enemy must be found in the rat family.

Yet in fairness, it should be admitted that this rodent is not thus obnoxious to man's extreme displeasure, simply because he is a sneak-thief, murderer, and *rat cannible*; but chiefly because he preys upon and defiles the stores which man has hoarded for his own special use.

And it may also be said in behalf of the rat, that he is a thief from necessity; for were he ever so much inclined to pursue an inoffensive course of life, and to earn his subsistence by honest and honorable toil, all avenues to such a course are to him effectually closed. And he seems to understand and accept the situation, well knowing and fearing the impending penalty for his acts, and ambitious in nothing but the attainment of a bad eminence in his profession. We do not know whether he ever repines at his lot, or presumptuously inquires why he was made a rat, and not rather some more favored animal. If so, we advise him to read Pope:—

"Then in the scale of life and sense 'tis plain
There must be, somewhere, such a link as *rat*."

But perhaps it is a question more interesting to man than rat, why there must be such a link in the "vast chain of being." While we are in no doubt as to the wisdom and benevolence of the Creator of all things, our knowledge of the various dependencies and relations of the countless forms of animal and vegetable life, is too limited to enable us to comprehend clearly the necessity or utility of many of these forms. A very common solution of the question before us is, that vermin are given for our discipline, by calling into exercise our ingenuity for their destruction, or our patience in enduring their depredations. Perhaps some may think that they are consequent to man's fallen condition, and should be incitements to the "seeking of a better country" free from moths. Without criticizing too severely the above solution, we may be allowed to say that any view of the animal world which restricts it to the use, advantage or disadvantage of man, must be extremely narrow and selfish. If we may believe the records of geology, the republic of animals was large and prosperous before the introduction and reign of man. And before we can approach a true solution of the question, we must admit that animals as well as men have some rights which we are bound to respect; and that animal life and enjoyment, irrespective of man, is of some little importance in the economy of nature.

But since many species and even whole genera of animals, from time to time in the past ages, and some indeed within the historic period, have become extinct without any sensible disturbance of the balance of power, or apparent shock to the great animal fabric, perhaps we may safely proceed to exterminate one or two species of vermin by way of experiment. And as the Norway rat is an interloper, having come to America about 1775, we may the more properly take him as the first example. But "*Facilis descensus—sed revocare gradum hoc opus, hic labor est.*" His introduction was easy—to exterminate him is a hard job; and will probably never be attempted on any plan sufficiently comprehensive to be successful. And therefore rats and men must submit to live together as best they can, hating and being hated. But if these detestable gnawers cannot be utterly destroyed, they may be diminished, partially excluded or frightened away, and compelled to change their base. And this brings us to a more practical consideration of the subject, which will be pursued in our next number.

*Wilkinsonville, Mass.*, 1867.

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*For the New England Farmer.*

## AMOUNT OF SEED FOR POTATOES.

Having become convinced by repeated experiments that one can obtain more bushels and better sized potatoes by planting the butts of large potatoes than other descriptions of seed, I tried an experiment last year, with a few hills, to ascertain the quantity of seed necessary to a hill. The result was in favor of a much more liberal seeding than is commonly practiced.

To put the matter beyond all reasonable doubt, I have this year tried an experiment on a more extensive scale. I planted 780 hills as follows:—Commencing at one end, in the first row, I put 3 butts in a hill, in the second row 4 butts in a hill, and so on through the piece. Every odd row had 3 butts in a hill; every even row had 4 butts in a hill. I dug each row separately and weighed the product. The result was:—

390 hills with 3 butts yielded 1401 lbs. 14 oz.
390 hills with 4 butts yielded 1569 lbs. 15 oz.

This would leave a gain of 17 1-3 bushels per acre by planting 4 butts in a hill instead of 3. Take out 10 bushels for the extra seed, and it leaves 7 1-3 bushels clear gain over and above the extra seed.

After finishing my other planting, having a pile of mud on hand, for which I had no immediate use, I leveled it down, putting it in an oblong square form, leaving the mud about 18 inches deep. Here I planted 12 rows, with 6 hills in a row. From necessity I planted smaller potatoes, 5 being about equal to 4 of the others. Here every odd row had 4 butts in a hill, and every even row had 5 butts in a hill. On digging,

36 hills with 4 butts in a hill yielded 125 lbs. 4 oz.
36 hills with 5 butts in a hill yielded 136 lbs. 12 oz.

This would leave a gain, per acre, by planting 5 butts in a hill instead of 4, of 25 1-2 bushels. Take out 8 bushels for the extra seed, and it leaves, omitting fractions, 17 1-2 bushels clear gain over and above the extra seed.

The way I account for the discrepancy between these experiments is this:—In my first experiment I commenced planting at the best end of the field; and consequently as we approached the other end, which was poorer, the odd rows were on better soil than the even rows. Had I commenced at the other end the result would doubtless have been more in favor of heavy seeding. Inequality of soil is a great obstacle in the way of trying accurate experiments. In my second experiment, as I used no manure with the mud, this obstacle was avoided.

The only valid objection which can be brought against such heavy seeding as these experiments indicate is, that the more seed you put in a hill the smaller will be the potatoes. Whether this objection outweighs the advantage of a larger product, each one must decide for himself. I think I had as many good sized eating potatoes from 4 butts to a hill as from 3; so that the extra product was clear gain, if the gain was in small potatoes.

### Sprouts or Eyes.

I wish to say a word about the impropriety of planting small potatoes, or large ones cut in small pieces. The root of the potato sprout or eye extends to the center of the tuber. Sever the sprout or eye from its root, and you lessen its vigor. In proof of this, pare off the outside of the potato to the depth of one-eighth of an inch, and the inside, if planted, will commonly grow, but it will grow feebly. Plant the paring and it will grow feebly, just in proportion to its thinness. Cut a potato as you will; the smaller the piece, the more feebly it will grow. As to planting small potatoes it is contrary to all analogy. When farmers winnowed their wheat in the wind, they kept the butt of the heap for seed. Gardeners always prefer the middle head of the parsnip for seed. Thus with all kinds of seeds; the largest, most perfect and best ripened are always preferred. Should one go counter to the common practice in selecting seeds, his sanity would at once be called in question. Why, then, should potatoes be an exception to this universal rule?

*Derry, N. H., Jan.* 1867. E. B.

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*For the New England Farmer.*

## A PLEA FOR THE BIDDIES.

Mr. Editor:—I am right glad to see the pleasant cover of The Monthly Farmer once more. I have greatly missed its visits for two or three years past. True, I have had the weekly Farmer, but that is not in a proper form for occasional reference or for binding. It is only a newspaper; and, at the week's end, like all newspapers, it is common property as wrapping paper.

But your Monthly collects that which is most valuable in the weekly; gives it to us in pamphlet form, which says, "hands off" to the destroyer. And, at the end of each year, we can have a volume for reference which is worth a dozen times what it costs. Few books in my house are consulted oftener than some old volumes of The Monthly Farmer. If those who cultivate the soil were not blind to their own interest you would print a larger edition than you do. But we must wait and hope.

And now, having paid you what I really feel to be a well deserved compliment, I want to point out what I think is a glaring inconsistency in your January number. On page 10 you say:

> The Poultry.—This branch of farm stock probably pays more for the money invested than any other. Treat the poultry fairly and the poultry will treat you to flesh and eggs accordingly.

All that is strictly true; but on page 26 I read the following:

> The great profits which are occasionally realized on a few fowls induce many people to think of extending the business. Frequent inquiries are made for our opinion as to the expediency of engaging in the business on a large scale. From our observation and reading we have felt obliged to advise against all such enterprises.

Now, Mr. Editor, are both these paragraphs true? Is it, indeed, a fact that a few fowls are very profitable to a farmer, but, when the number is increased, the business becomes unprofitable? For one, I am not ready to accept the theory or admit the fact. It is a well settled principle that one can feed ten cattle or ten sheep proportionately cheaper than we can one; that we can cultivate ten acres of corn, or cut ten acres of hay or grain, at a less rate than one. Why does n't the same rule apply, at least in some degree, to the poultry yard?

When I went to school—the old square brick house, you know; inverted mill-hopper for a roof; brick floor; seats around the walls like a morris-board, it took me some time to master the rule of which these signs are the representative, : : : : But, once mastered, I never forgot it. And I aver that as ten fowls, well kept, *is to* "pay better than any other branch of farm stock," *so is* a hundred fowls equally as well kept *to* ten times as much profit.

I don't say that I am not wrong in this, but if I am, will some one please to tell *why?* It is no argument to say that all attempts to raise poultry on a large scale have been, so far, failures. Further on, in this very January number you quote from a Rhode Island paper which tells us that, "Mr. A. C. Vose, near Manville, has enclosed an acre and a quarter of land with a high fence; and in this enclosure he keeps about a hundred and fifty hens. During nine months of the year these fowls gave a net profit of two dollars a day, or five hundred dollars a year."

If this story is true, why could n't Mr. Vose

enclose *another* acre and a quarter of land with a high fence, stock it with fowls, and reap *four* dollars a day instead of two? Or, why could he not have *ten* such lots with a like increased income, if he was careful that all his stock was *equally well kept*?

I ask these questions earnestly hoping that some one will enlighten us on the subject. Eggs have averaged three cents each in our market for a year past, and how much higher they will go unless some one *does* go to raising poultry on an extended scale, no one can tell. At any rate, I desire that our FARMER shall be a *leader* in all good works. If one falls down in the race, let him be picked up, the dust brushed off, a few words of encouragement given and the runner set on his way again. Depend upon it, it is a great deal better than telling him he is a bad boy and must run directly home, unless you can show him plainly and conclusively that what he is running for cannot be reached. When I see that such is indeed the fact, I shall be ready to give in; but I am not ready to throw over my feathered friends as impracticable just yet. IDEX.

## CULTIVATION OF HOPS.

The high prices which hops now command will induce many to engage in the business. Without practical experience in the art of growing or curing them, the cultivator should proceed cautiously. No sort of produce probably has fluctuated in price like the hop. This year they are 50 cents or more per pound; and in a year or two, judging from the past, they may be worth only from 5 to 10 cents. Of late, too, insect depredation has proved most disastrous in many sections.

We copy from the *Rural New Yorker* the following article, written by Mr. J. M. Weller, of Wayne county, N. Y., in reply to questions which had been asked by another correspondent:—

"1st. How far apart should the hills be planted? Ans. Seven feet one way and eight the other, without regard to cheapness of land. 2d. I would not plant the corn rows near the rows of hops, and would alternate the hills by leaving out the corn where the hop roots are planted. 3d. I would advise flat culture instead of hilling. 4th. How many poles to a hill? Two. 5th. How long should they be? From 18 to 22 feet. 6th. How many vines to a pole? Two.

I will give a little more advice than is asked or called for, with regard to the roots and planting. The roots or seed, are last year's runners; they should be cut five or six inches long; three pieces to a hill; they should be cut so that the eyes, or buds, should be left on both ends of the roots. They should be planted about the same depth proper for potatoes, and should be dug early, before the buds on the roots start, put in a cellar and kept there until you are ready to plant your corn. Three bushels to the acre if the roots are good, are enough.

Another correspondent from Wisconsin sends the *Rural* the following on the same subjects: "Plant seven feet apart each way. I make no hills, but set a small stake 18 inches long to denote where the hill is. I have always planted potatoes and think it much better than corn for hops, the first season; plant the potatoes deep so as to avoid hilling as much as possible. I use a small cultivator, with three shovel teeth, the first season. Flat culture is the best for this section. My land is sandy, and we sometimes have droughts that injure the hops, if hilled. Set only one pole to the hill the second season, unless it is a very strong hill; then I set two. Afterwards set two, and to the strong hills three—leaving only two vines to a pole. My poles are from 16 to 20 feet long, but I think by observation, that poles from 12 to 16 feet are long enough. Cedar rails are best.

The growing is nothing to getting hops in good order for market. One-half, perhaps, of the hop crop does not command over one-half price in market, for the want of proper drying-houses and machinery for packing, and proper care in picking. Any neglect on the part of the hop grower in any of these things must result in loss."

Mr. L. H. Hansen, of Clifton, Va., an experienced hop-grower, informs the *Baltimore Farmer* that he plants hills at six feet distance.

"Holes two feet square and from *five* to *six* (?) feet deep were dug in the fall. Early in the spring the holes were filled with fresh horse and cow manure, about one foot and six inches from the bottom. On top of the manures the top soil was thrown, and about two feet of the hole left open for planting. Three weeks after the manure had been deposited in the hole, the hops were planted and surrounded by the *subsoil*, which, by exposure to the air, sun, frost and rain, through the winter, had lost its offensiveness to vegetation. In every hole *only one* plant. The first year the vines were tied to small poles, to enable the laborers to clean properly around the plants. The next year, and so on for every year, early in the spring, the dirt was removed from the main root, and *all* side roots cut off close to the main root, and the dirt then put back. As many of the wiltings as were required for next spring's planting, were put in ditches one foot deep, kept clean during the summer, and planted the next spring. On the head of the hop-root *only two* or *three* eyes were allowed to grow into vines, the balance nipped off, so that only one pole was required for every hill. These vines grew stronger, made more hops, and

twice as large fruits, (I have had them four inches long,) as any other hopvines I ever have seen. As soon as the vines have reached the top of the poles, about twelve feet, their heads are cut off by a knife tied to a long handle."

When a new hop-garden is formed in England, the ground is trenched, Mr. Stevens says, to the depth of two feet. Where labor is as dear as it is in New England, few farmers will dig holes six feet deep, or trench the whole surface to the depth of two feet. But all hop-growers agree in the importance of deep and thorough cultivation, and high manuring. Indeed the hop field, like the tobacco patch, claims the lion's share both of attention and manure, and gets it, too, where hop-growing is made profitable. The following directions as to the subsequent cultivation and kiln-drying were written for the NEW ENGLAND FARMER some five years ago by a correspondent who resided in Otsego county, the great hop-yard of New York:—

"The first year, they are cultivated like corn, no poles being set, and in the fall a shovelful of coarse manure is thrown on each hill, to keep them from freezing, and also to keep the land in good condition. The next spring the poles are set, two in each hill, as soon as they begin to show themselves out of the ground. The poles should be set very firm, to resist the winds, which exert a tremendous power on them when loaded with vines. Poles are generally cut eighteen to twenty feet long, which admits of their being sharpened two or three times if they rot off, as they always do in a few years. The land must be cultivated the same as for corn, keeping the weeds down, and hilling the hops up about the first of July, the same as corn. As soon as the hops are from two to four feet high, they must be tied to the poles with woolen yarn, putting two vines to the poles, and cutting off all others close to the ground. Nothing more is necessary until picking time, except to keep watch and fasten up vines that happen to fall down, and re-set the poles if any should happen to blow over. The picking is usually done by women and boys at about two cents per bushel. Boxes made of thin, light wood, and holding from twenty to thirty bushels are used to pick them in; four picking in a box, and having one man to pull the poles, cut off the vines, and lay them on the box. Large sacks are used to carry them to the kiln where they are dried before they are marketable.

"The size of the kiln must depend on the size of the yard. A yard of two acres would require a kiln about fourteen by sixteen feet, and twelve foot posts; the lower room, seven feet between joints, and lathed and plastered, so as to be perfectly tight, except overhead, where there should be floor timbers eighteen inches apart, and a floor of slats one and a quarter inches square, and laid one-half inch apart, and the whole covered with a kind of open cloth made for the purpose. On this floor the hops are spread from four to six inches deep, and a fire of charcoal made in the room below, and the temperature raised to about one hundred and twelve degrees. It usually takes about twelve hours to dry a kiln, they being stirred up every hour, and a teaspoonful of sulphur put on the fire about as often; the object of which is to bleach or whiten them. After being dried so that no moisture can be extracted by squeezing them between the thumb and finger, they are taken off and prepared in bales of one hundred and fifty to two hundred pounds, and sent to market."

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AGRICULTURAL SCHOOLS.—Every farm and workshop ought to be a school where our sons and others can be taught to guide the plow and swing the scythe, and handle every tool in the most appropriate manner known to those skilled in their use. In the one, should be taught the nature of soils, the qualities and uses of manure, and all the minutiæ of the cultivator's art; in the other, the laws which govern mechanics should be studied, and the pupil should be instructed in all the mysteries of the mechanic arts. Thus, in both, should be taught all the various learning which goes to complete the farmer's and the mechanic's education for the practical duties of their calling.—*Mirror and Farmer.*

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## FOREIGN CLOTHING MATERIAL.

The statistics given in the December number of the report issued by the Department of Agriculture at Washington show enormous importations of clothing material for the year just past. The wool growers of the United States complain that under existing laws there is no inducement to continue in the business of growing wool. Prices have declined under foreign competition and excessive importations to a point where wool growing ceases to be remunerative, and hence must be abandoned unless some check be inaugurated to change the tide setting in against home fabrics manufactured from home material.

It would seem that a country as extensive as that of the United States, and with resources so abundant, ought to produce the raw material and manufacture out of it her own fabrics. The high rates paid by our people for cloths ought, in part, to go back to our farmers, who are able and willing to grow the raw material, instead of being distributed abroad among foreign producers.

The figures for eleven months of the past three years, furnished by the New York Custom House entries, indicate a reasonable cause

of alarm in reference to the future value and profits of labor. It will be seen that the excessive importations of the past year are enormous, and amount to more than $50,000,000 more than in 1864. The following are the figures referred to, showing the imports at New York for eleven months during the years 1864, 1865 and 1866 respectively:—*Ohio Farmer.*

| | 1864. | 1865. | 1866. |
|---|---|---|---|
| Manuf'tures of wool | $14,272,965 | $7,409,031 | $18,628,967 |
| Man'f'tures of cotton | 2,968,246 | 2,571,890 | 5,830,758 |
| Manuf'tures of silk . | 5,049,151 | 3,827,228 | 7,910,323 |
| Manuf'tures of flax . | 4,326,404 | 3,346,425 | 6,816,520 |
| Miscell'ous dry goods | 1,114,712 | 502,151 | 1,500,542 |
| Total entered for warehousing . . . . . | 27,731,478 | 17,656,725 | 40,717,110 |
| Add entered for consumption . . . . | 42,299,707 | 63,729,422 | 79,516,014 |
| Total entered at the port . . . . . | 70,031,185 | 81,386,147 | 120,233,124 |

Vermont Sheep.—The correspondent of the Springfield, (Mass.) *Union*, has been visiting the sheep farms of Cornwall, Vt., and reports particulars. Henry F. Dean has a 300 acre farm, and 140 Spanish merino sheep, valued at $40,000 Hon. Rollin J. Jones has a farm of 600 acres. His flock numbers 125, valued at $40,000. F. H. Dean, 350 acres; 150 breeding ewes valued at $500 each—$75,000. Don't doubt it, for he has been offered $1000 each for five of them, and $7000 last year for a four-year old buck, which has since earned him $4000. California gold mines can't compare with that. Merrill Brigham, 400 acres; flock, 300 thorough-bred, valued at $51,000. Simon S. Rockwell has a flock of 300 valued at $30,000. One of his bucks has netted him over $20,000 in the last four years. Hon. Joel Randall, 500 acres, and 250 "of the best blooded sheep," value not stated. He sold a two-year old buck recently for $3000.

## TANNING WOODCHUCK SKINS.

Seeing so many different ways for tanning furs, woodchuck skins, &c., I thought I would send you mine. I have tried various ways, and I think my way the least labor, and the furs tanned as well, if not better, than any I ever saw. I take the first premium on tanning at our County Fairs when I take any of them.

Woodchucks are best caught in winter or spring. In an open winter I have caught them every month but December. They come out very early in the spring, and it is very easy catching them—at least, I never had any trouble. Find where they come out, set the trap in the mouth of the hole, cover with leaves, and I am sure of a woodchuck the first time one comes out.

For tanning, salt the skins, roll up, and let them lie for four days in the salt; then take them and stretch, and let them dry straight and smooth. Then take an old shave or something similar, and a smooth board six inches wide to work on, and flesh the skin clean; then for each skin take of salt and pulverized alum one table spoonful, equal parts for each skin—dissolve the salt and alum in warm water just enough to wet the mixture—put it on the skins warm—roll up the skins, and let them lie from two to four weeks; then partially dry them; then take sand paper and rub them till dry, and they will be ready for use. There is oil enough in them to make them soft and pliable.

Woodchuck fur is nice plushed. It makes good trimming for children's caps and nice mittens, and does not cost one-fourth as much as yarn, and outwears them by half for mittens. I make the inside of the hands of the best fulled cloth I can find. It will outwear the best deerskin I ever saw, and is much warmer, and wetting and drying does not make them hard like deerskin. I have tried them both, and I want no more deerskin for me unless for chopping.—*A. W. W., in Country Gentleman.*

A Hint for the Boys.—I rejoice to say I am a farmer. Although young yet, I find I can keep up with my neighbors. I have always lived upon a farm: my father is a good farmer, and he has a nice little workshop, in which I first learned the use of tools. I can mend a plow, wagon, sleigh, or an ox-chain, sharpen and temper a crowbar, make a gate and hang it, mend harnesses, boots, shoes and tin pans, repair and clean a clock and watch, and on a pinch can wash, iron, and darn stockings. My apprenticeship was served in my father's farm-shop on rainy days where I spent my leisure time, instead of resorting to the village. This training has given me a love for home, with skill and ingenuity to keep thingsneat and in repair, and to make home attractive to myself and family.—*Highlander, in Rural American.*

Agriculture in France.—The *Journal de l' Agriculture* says:—"The agricultural statistics of France for 1866 are not very brilliant. The corn crop is below the average. Wine will be abundant, but of very ordinary quality. Potatoes are rotting in the storehouses; in many instances fears are entertained of not being able to preserve sufficient for the next planting. Olives will furnish a better crop than was expected. Tobacco is affected with the rot. Walnuts and chestnuts have produced the ordinary quantity. The disasters of the silkworm culture add darker shadows to the picture. The cider fruits offer a valuable resource, and several special crops, such as hemp and colza, have been good. There is, therefore, some compensation for the evil, and above all, hopes for the future."

The Fire-fly.—This is one of the most common and peculiar insects we have, and some of its species are well known and widely distributed throughout the United States. Here it is popularly known as the "lightning-bug," on account of their sudden and brilliant flashes

of light in the evening and on dark nights. They are also called glow worms. It belongs to the order *Coleoptera*, family *Lampyrdæ*. Our species of glow-worm, or fire-fly, is a beetle about a third of an inch long, wings of a brown black color margined with pale yellow and thorax light crimson. The outer wings are of a softer consistency than is found in most beetles. The larvæ is a soft black flat grub supposed to live in the ground in low swampy places. Those that we have observed emit the light at will from the top of the abdomen, on raising their wings. The females of some species which are wingless, are also said to possess the same power. This peculiarity of emitting light is probably done by the insect to attract its mate. Those of the Southern States are more luminous, and it is said one of them will emit sufficient light to enable a traveller to tell the hour of night by holding his watch near the insect.—*Me. Farmer.*

## EXTRACTS AND REPLIES.

### SHALL I PURCHASE A FARM?

Advice is wanted in the following case. Your opinion will decide it with me.

I live in the city, and desire to remove into the country, and engage in agricultural pursuits. I have enough to buy a farm, pay for it, and stock it, and not owe a dollar in the world, and have $10,000 at interest. Can I do it and get a living from any farm, with the interest from my $10,000, and not be obliged to draw upon my principal? Your opinion is sought for, as it will decide the question for me, and perhaps for many others.

The farm I propose to buy is within 20 miles of Boston, upon the railroad; there are 73 acres, buildings good. It keeps 11 cows, 1 yoke of oxen, 3 horses, 4 pigs, and the present owner appears to get along, though he don't hurt himself with work. There is a good bed of muck which has not been used much. The soil is good, and good judges say that the farm is well worth what it can be bought for.

Let me have your opinion, if you please, in the FARMER. I am a weekly reader of your paper.

*Boston, Jan.* 29, 1867. A. B.

REMARKS.—We have had many letters of a character similar to that of the above, and we can answer just as intelligently as our querist could answer us, if we should say—"We have $10,000 to invest in a dry goods store in Boston, and have $10,000 more as a working capital"—can we get a living from it, and not trench upon the principal? The farm you describe will support any family which has health and industry, and will practice a moderate frugality. There can be no doubt of it. If it were not so, the earth would not produce enough to sustain even a sparse population.

You do not state how much taste you have for agricultural employments, how much capital you have invested in your own skill for reclaiming the soil, and increasing its fertility when reclaimed; how much for cultivating fruits, increasing and composting manure heaps, selecting breeds, and purchasing and selling stock, and when the crops are produced, in getting them to market and securing profitable returns.

The points of more importance to you, and your family, than any you have mentioned in your letter, you have not touched upon.

Few persons, in any of the walks of life, make sadder business mistakes than those who have been occupied in, and led a city life. Many of them receive the common opinion that "any body can be a farmer," and this error, with a sanguine temperament, often leads them into unfortunate circumstances which are irretrievable, and cloud all their future life.

Farming is just as much a business that requires the prompt application of the powers of both mind and body, skill, industry and perseverance, as any other avocation in which men engage. Indeed, there is no other business, in our opinion, that requires *something of all the knowledge* taught among men, so much as that of agriculture and its kindred branches. Unlike other arts, it has few unvarying rules to govern its devotees, even in the manipulations of the soil. The same course that the farmer pursued last spring in getting his crops into the ground, may be inapplicable, in many respects, this spring. He is always surrounded, too, by hosts of depredators, (so he thinks,) who devote their lives to destroying the fruits of his labor. Frosts cut down his crops; droughts pinch them; how can he protect himself against these effects? Drenching rains, mildew, and blight, not only visit his fields but disease is there, too, and also cuts off his cattle in their stalls! How are all these to be prevented? Only by the extension of his knowledge, and to acquire this, every kind of information that is useful to any class, will be useful to him.

There are many other points that ought *first* to be considered, before dwelling upon the main inquiries of our correspondent. They are of a more personal and private nature. We could recite instances, and the circumstances attending them, enough to fill a page, where city gentlemen have sought our advice, but did not heed it, and heavy losses, disappointment and discouragement was the result. In one instance, more than $20,000 was sacrificed, and that loss was not so great as the loss of health and comfort which was attendant upon it. In other instances the losses have varied from $1000 to $10,000. The advice was too cheap. It seemed to have no value because it cost nothing. These errors are committed every week, and the money losses attendant upon them are little in comparison with the wounded pride, (laudable, perhaps,) blasted prospects, and the new and uncongenial mode of life that must for the future be pursued.

Some of the best farmers in New England are those who have spent most of their lives in the city. Men who spent their childhood and youth on the farm, who had decided tastes for rural employments, and who saw, heard and treasured up in

their minds every thing that took place about them. These were facts laid down as a basis, to be builded upon in all after life by reading, reflection, and an unceasing and acute observation. No wonder that they entered upon the farm with skill to manage their capital in the soil, and to set us excellent examples. Our correspondent, we trust, is one of this class.

### "USE AND MISUSE OF BUCKS."

I read with much interest an article in your valuable paper from the pen of Dr. H. Boynton, of this State, upon the "Use and Misuse of Bucks."

With your permission I will give your readers my experience the past season. I kept forty-four ewe sheep, natives, with a slight sprinkling of South down and Leicester. I used with them a buck lamb which was a cross of the Hampshire Down and Leicester. I "tended the buck" by letting him among the sheep with a rope about his neck, with which to regulate him. I never allowed him to serve but two each day, and those but twice each. The buck was kept in the stable and fed with the best of hay, grain and roots, with plenty of water, which kept him strong and vigorous. About three weeks sufficed to serve the flock, when the buck was allowed to run with the sheep, Now for the result:

Two of the ewes had no lamb. The forty-two dropped fifty-five strong, healthy lambs, which required no extra attention, except a little feeding of some of the twins for a few days. The lambs began to come the first of April. I lost but one of said lambs, and that one was killed by a dog or fox in the pasture. I sold the fifty-four lambs in September, for two hundred and thirty-five dollars, which was better than flocks sold for in this town with no twins among them. The same sheep last year had but three sets of twins, while this year thirteen of them raised twenty-six lambs. I have managed my flocks the same this fall and shall note the result in the spring.

JONATHAN LAWRENCE.

*St. Johnsbury, Vt., Jan.* 22, 1867.

P. S. I might have given my manner of feeding and caring for my sheep and lambs, but my article is already sufficiently lengthy for a new beginner. J. S.

REMARKS.—Just about the right length. How much valuable matter can be put into a small space. Your direct and clear manner of expressing yourself will be urged by thousands of the readers of the FARMER as one of the reasons why you should give them your very successful "manner of feeding and caring for your sheep and lambs."

### A NEST OF EGGS.

MESSRS. EDITORS:—Enclosed I send you a sample of eggs, with the nest, as I found them on my apple trees, while pruning in November. Sometimes I found the remains of an insect in the nest with the eggs, sometimes the eggs alone, and sometimes the remains of the insect without the eggs. To what species do they belong? And are they injurious to the trees or fruit?

I also noticed many little cases about a quarter of an inch long, fastened to the under side of the limbs, some two or three inches apart, right in a line and always lengthwise of the branch, containing a very small worm. What are the habits of the creature in its other stages of development?

I have about one and one-half acres of orcharding, the greater part of which was set out some thirty-five years ago, and for the last twenty years has had about all done for it that I have seen recommended in the agricultural papers. Have grafted, pruned, plowed, scraped and washed the trees, but as yet have not received as much from the land as I should have done had it been laid to grass or planted with hoed crops.

The soil is loamy, resting on a subsoil of loose gravel; a portion of it sometimes suffers from drought, but never from moisture. There are about twenty varieties of apples in the orchard, embracing the earliest, latest, and medium fruits. The Sapsons and Greenings have made the best growth; the former being very prolific, the latter always bear many blossoms but little fruit, while the Pearmain's and Peck's Pleasant seem to be ordained for the woodpile, and were it not for the fact that I love apples dearly, a great portion of my orchard would be in that vicinity very soon.

*Hebronville, Mass., Dec.* 28, 1866. S. L. READ.

REMARKS.—We have examined the parcel sent us, but no living thing in it could be found, although the eggs were broken and placed under a microscope of very high power. The eggs and cocoons are common, but we cannot make out their names from an examination of Harris' book.

We cannot account for the failure of your orchard; perhaps might upon seeing it. A neighbor of ours set 150 trees 18 years ago, on good sandy loam land, and has tended them well. They are thrifty, handsome trees—but he has not obtained fruit enough from them to supply a family of ten persons. We set as many trees at the same time, on a granite soil, have tended them well, and cropt the land heavily every year, and have gathered 200 barrels in a season. Why the difference? Who can tell? One is a granite soil, the other a rich, sandy loam. Ours is on high land, the neighbor's is on a level between hills and low land.

### "YOUNG OLIVE PLANTS."

When the "FARMER" arrives, each one, as he takes the paper in hand, turns first to that part in which he or she is most interested. The farmer glances over the first page, turns to the prices current, &c., while the housekeeper will turn to the last page to read the receipts for cooking, &c., and the sentimental miss will go to the poet's corner.

Now I am not much interested in the hints about rearing and training colts or calves, but I have a small flock of bipeds as full of life and spirits and sound as young colts, and stand in need of as much training. They are real downright, noisy, boyish boys, direct descendants of old father Adam, and have the inherent craving which distinguished that particular ancestor, for *more apples*; consequently they are ready at all times for a raid upon the commissary department for supplies. As I have practiced cooking for some years, I find it much easier (when I have the materials,) to make their doughnuts and gingerbread than to make *them* docile and gentle, and much less trouble to make cakes and custards than to learn them carefulness and cleanliness. Their greatest ambition seems to be to slide down hill, skate, play ball, and have a good time generally, without regard to raiment, or the toil and care necessary to keep it whole and clean. As I said, they are troubled with no ambitious desire to become President or anything of that sort, but sometimes when their very particular wishes are crossed, they manifest a strong tendency to walk in the footsteps of that personage, by taking high steps, "swinging round

a circle," or rather a number of them; and if possessed of the power, would remove with a will all P. M.'s from office—which may mean, in their case, Post Masters or Poor Mammas; it makes but little difference, in that state of mind, which.

I will say no more of their propensities or habits now, but I shall look with eagerness for that part of "Domestic Economy" which treats of plants —especially "the young olive plants" which were in old times considered as blessed gifts to a poor man. Although it is getting to be very unfashionable to have a troop of boys, yet as there are some boys now, some hints from those who have been successful in this department of agriculture would no doubt be gratefully received by many others as well as myself.

I am *not* the Old Woman that lived in a shoe, but have so many children that I've enough to do. No doubt you think I'd better be doing it. M. R. C.

*West Boxford, Mass., Feb.*, 1867.

### GOOD PIGS ON COOKED FOOD.

I saw a statement in a late FARMER, of a pair of nice pigs fatted on uncooked food, in Derry, N. H. I will now give you a statement of a pair of pigs, fatted on half middlings, half Indian meal, with skim milk, cooked every time. The pigs were bought of Mr. William Pickering, one of my neighbors, July 3, 1866, at six weeks of age; one weighing 19 1-2 and the other 20 1-2 pounds. They were slaughtered Jan. 23, 1867, making them thirty-five weeks old. Weights, 331 and 315 pounds.

*Wilmington, Mass., Feb.* 3, 1867. J. A. AMES.

### A BRAHMA COCK AND HIS LEGS.

I have a very fine Brahma cockerel which I value very highly, it being the only full-blooded fowl of the kind in this vicinity. He has very suddenly lost the use of his legs, or nearly so; he appears to be all right every other way, but his legs don't serve him. Will you, or some one else, please tell me through your columns, what ails him, and how to cure him? and oblige a subscriber.

F. H. LANDER.

*North Auburn, Me., Jan.* 28, 1867.

### WHAT IS IT?

On opening a hog recently dressed, I found something resembling in shape and appearance, a flax seed, loosely attached to the fatty portion of the entrails. Sometimes several of them were connected together slightly by a sort of mucous, sometimes they were entirely distinct from each other, were varying in size, always retaining the same oval shape, pointed at one end, and were quite solid in substance. None have been discovered yet in the meat. Not having ever noticed them before in other hogs killed, I wish to inquire what they are, the cause, &c., &c. The hog was fed with corn on the ear until a few weeks past; its food has been meal scalded at each time of feeding, and then cooled to a milk warmth. G. B.

REMARKS.—Who can tell?

### SCRATCHES ON HORSES.

I have a span of valuable black horses, which have the scratches so badly as to render them entirely unfit for use. Will you, or some of your correspondents, inform me, through the columns of the FARMER, of a reliable remedy and speedy cure? R. P. T.

*Pittsburg, N. H., Feb.* 3, 1867.

REMARKS.—If the disease is in its first stages—that is, has not ulcerated—wash the parts affected perfectly clean with castile soap and warm water; rub dry with the hand or warm flannel. Then, with a soft sponge, bathe freely with brine from the beef or pork barrel, three or four times in twenty-four hours. Exercise the animal, by walking him about, two or three times in the course of the day. Give but little grain, and that in the form of a mash; but green food when it can be had, such as grass, or roots, and especially carrots.

If the disease has assumed the *ulcerated* form, the hair must be cut off, and the parts cleansed as stated above. It is doubtful whether the brine would be efficacious in this case,—but it would be well to try it. If not, prepare a lotion as follows, and wash three times each day with it, viz:—

Chloride of zinc, one ounce.

Creosote, four ounces.

Strong solution of white oak bark, four quarts.

There is a tendency to this disease in some horses, so that on the slightest appearance of it, measures should be taken to prevent its progress. The hair about the ankles should remain there, certainly through the winter. "Cutting it away, and thereby exposing the heels to the operation of cold and of wet is no unfrequent cause of grease. In winter, when the legs most require warmth and protection, the heels are deprived of the cover which nature intended should protect them; and parts where the blood flows most tardily are laid bare to the effects of evaporation and frost." Dashing cold water on the legs of a horse, when he returns from his work, and then sending him to the stall, is a miserable practice. It suddenly chills the legs, which is considerably increased by the greater evaporation caused by wetting them. Wash the legs, if soiled, and rub them dry, before putting the horse into his stall. It will require a little time, but less than to lose the services of the animal while curing him of scratches.

### CHANGING SEED.

We hear much about changing seed, especially potatoes; which, doubtless, is all very well. But I wish to know why it is not just as practicable for me to plant a certain field on my farm with potatoes which were raised on my own premises, say 50 rods from the field to be planted, as it is to go to my neighbors, across the way, about the same distance and purchase my seed?

I can readily see why I may not plant the same field annually with the product of the preceding year, but why I may not take the product of another field for seed, I acknowledge I fail to perceive.

*Salisbury, Conn.* W. J. PETTEE.

REMARKS.—We can see no harm in changing seed, provided we get that which is good. We have planted potatoes through a period of fifteen years, on the same farm, and on fields adjoining each other,—selecting small potatoes for seed,—and we can perceive no deterioration yet, either in size or quality. They are of the "Irish Cup," "Dover," or "Riley" variety,—the former being their true name.

In plants that "mix" freely, such as corn, squashes, &c., it is well to change, if we can procure pure seed. The idea that frequent changing

of seed is useful, is a popular one, and we should be glad if some of our correspondents would set forth the advantages to be gained from the practice.

### CALOMEL AND SULPHUR FOR FRUIT TREES.

*A Novel Method of Doctoring Fruit Trees.*—A gentleman, of Rochester, was lately in Saratoga county, N. Y., and was there shown an apple tree in fine healthy condition which had been ill, subjected to treatment with calomel and thoroughly cured. This tree was afflicted with insects, which were destroying it and rendering it unproductive. A hole was bored in the body of the tree nearly through the sap, and two grains of calomel inserted. As soon as this calomel was taken up by the sap, the vermin on the tree died, and it began to bear fruit, and has done so for three years, to the entire satisfaction of the owner. Sulphur may be mixed with the calomel and produce a good effect. This is a fact worth knowing.

The above extract I cut from a Boston daily paper, some time ago. If you have not published it in the N. E. FARMER, will you do so in such a manner as to call out from the author or some other person who may be thoroughly posted in the matter, answers to the following questions: What time of the year was the "calomel" put in? What kind of vermin? Will it take a larger portion for a larger tree? How large in diameter was the tree? What effect would a larger portion have on the tree? Is the fruit affected by the calomel? Would the calomel have to be administered every year? If the calomel gave entire satisfaction, of what use can the sulphur be?

Caterpillars will be rather scarce in these parts next spring. They did not many of them go to seed, and I cannot find but few of their spawns on the trees, neither last autumn nor the present winter, —not one this year to twenty last year. A. C.

*Stoughton, Mass., Jan.* 28, 1867.

REMARKS.—We presume that the above extract has never been published in the FARMER, as, not having any faith in its efficacy, we should not be likely, of our own accord, to select it. We have heard of sulphur and other materials being used as above directed, with no beneficial effect. The failure may have been in consequence of the insolubility of the materials inserted, and we are not certain that calomel, being more soluble, may not physic away the insects, but we must repeat that we are incredulous as to its beneficial effects. Still we wish to have it tried. Medicines are injected into the circulating fluids of the animal system. We have heard it said that the mouth may be made sore by rubbing blue pills upon one's leg —and more scientific experiments may prove successful in salivating insects on leaves and fruit by inserting a pill into the trunk of our fruit trees. But then how is it about the sap cells or vessels? May not each bud have one of those little channels which the microscope shows to exist in wood, for its special and independent feeder—its exclusive line of communication and supply with that great store-house, the soil? If so, how many pills would a single tree require, to protect each leaf?

### FARMERS' GIRLS.

We little maids, up here in the country, do not like to be treated with neglect, nor do we like that sort of notice which may be illustrated by such expressions as "I *should* think it was time to have something to eat," if our meals are not ready at the exact moment; even if the men folks have been hard at work. Could they not think of how much we have to do, and how willing we are to work to save hiring help, and reward our efforts by an occasional thank, or at least a smile? It is true that farmers must work hard to provide for their families, but are not their wives, daughters, and sisters willing to help them by every means in their power? Then show us that our efforts are appreciated, by those little acts of kindness which are far dearer to us than the most costly gifts. These remarks are not prompted by a spirit of dissatisfaction with my home or my position in life. I am a farmer's daughter, and expect some time to be a farmer's ——. But no matter, for, at present—

I am a wild and laughing girl, just turned of sweet seventeen,
As full of mischief and of fun as ever you have seen;
And when I am a woman grown, no city beau for me,
If e'er I marry in my life, a farmer's wife I'll be.

I love a country life; I love the joyous breeze;
I love to hear the singing birds among the lofty trees,
The lowing herds, the bleating flocks make music sweet for me;
If e'er I marry in my life, a farmer's wife I'll be.

I love to see the chickens skip, I love to milk the cows,
I love to hear the farmer's boys a whistling at their ploughs;
And fields of corn and waving grain are pleasant sights to me;
If e'er I marry in my life, a farmer's wife I'll be.

I love to see the orchards where the golden apples grow;
I love to walk in meadows where so bright the streamlets flow;
And flowery banks and shady woods have many charms for me;
If e'er I marry in my life, a farmer's wife I'll be.

Let other girls, who love it best, enjoy the gloomy town,
'Mid dusky walls and dusty streets to ramble up and down;
But flowery banks, and shady woods and sunny skies for me;
If e'er I marry in my life, a farmer's wife I'll be.

—But at the same time I do often feel that my efforts to please do not always secure those evidences of kindness which they deserve.

——, *Feb.* 5, 1867. C. D. M.

### SOWING WHEAT.

Can you, or the many readers of the FARMER, inform me whether you have ever known a case of sowing winter wheat in the spring, early enough to have it freeze, and thaw, before it comes up? I intend to sow a small piece, in March, or the first of April, to see what it will do. I think I shall take part of the wheat, wet it and let it freeze, then let it dry, then sow it; and sow a part of the wheat on the land, and let it freeze and thaw there, and grow at its leisure. Fifteen years ago, the middle of March next, I sowed a piece of winter rye, part of it on the snow bank, and when it was time to sow spring rye, I dredged it in. I had a good crop of winter rye. If the wheat does well, you may expect to hear from me next summer.

*Essex Junction, Vt., Feb.* 7, 1867. H. GRIFFIN.

REMARKS.—The idea is new to us. We have heard of sowing spring wheat very late in the fall. Keep us informed, whether the wheat does well or ill.

### SOIL, MANURE, ETC., FOR MELONS AND SQUASHES.

Will "A. G. C.," Lee, N. H., have the kindness to state, in the NEW ENGLAND FARMER, the kind of land necessary for raising watermelons and winter squashes, the best kind of seed, and the parts

of manure in making the compost of night soil, charcoal, dust, plaster, and muck? In a short time I will give my experience in raising garden vegetables, and how to have a good garden.

*North Oxford, Mass., Feb.* 5, 1867. F. W. C.

## AGRICULTURAL ITEMS.

—Pig's gall is said to be an excellent application for burns.

—Bees naturally cluster below their stores, and the heat ascending keeps the honey from freezing.

—It is stated that two-thirds of the manufacturing enterprises of the State of New York are conducted in and about the city of New York.

—In Champaign Co., Ill., corn stooked last fall is worth 25 cents per bushel in the field for feeding cattle.

—The *Mirror and Farmer* is credibly informed that over forty tons of maple sugar were made in the town of Warren, Grafton Co., N. H., last spring.

—The next fair of the Illinois State Agricultural Society is to be held in Quincy, commencing Sept. 23.

—I. H. M. Cochran, of Craftsbury, Vt., raised 52 bushels of good wheat from two bushels of seed sown on one acre and a quarter of land.

—Alvin Wilkins, of Stowe, Vt., has a pair of steers which when less than twenty months old weighed 2,500 pounds.

—That great English experimenter, Mr. Lawes, states that 500 pounds of barley meal, where it is made a sole feed for swine, will increase the weight of a pig from 100 to 200 pounds.

—The more honey bees have on hand in March and April, the faster they will rear young bees, and the more workers will be ready to gather the harvest from fruit blossoms.

—Salve made of linseed oil one pint; rosin three ounces; beeswax three ounces, melted and well mixed, is as good as any ever sold at 25 cts. per box.

—During the first week in January the mercury sank below zero in several places in Middlesex Co., England; sinking to 9° below on the Cotswold hills, Jan. 4th.

—The London *Agricultural Gazette* says that the attendance upon the exhibitions of the local agricultural societies of that country is constantly decreasing.

—L. S. Tucker, Esq., of South Royalton, Vt., who in years past has done so much to improve the horses in his section of the State, has recently bought a flock of twenty-five thorough-bred sheep.

—It is said that the vetch, a kind of pea extensively raised in England, and considerably in Canada, is indigenous and of extreme luxuriance in the territory of the Northwest.

—The abortive cow disease seems to be extending in the dairy districts in Central New York. At a late meeting of the Little Falls Farmers Club, the propriety of adopting some such stringent measures as crushed out the pleuro pneumonia in Massachusetts, and the cattle plague in England, was strongly advocated.

—The Franklin County, Vt., agricultural society at their annual meeting at Sheldon, elected R. J. Saxe, president; L. H. Hapgood, secretary, and W. S. Green, treasurer, all of Sheldon, for the ensuing year.

—The number of new cases of the cattle plague in England during the four weeks in December were, respectively, 14, 7, 6, and 9. These were nearly all slaughtered, together with 118 healthy ones which had been exposed.

—We learn from the Portland papers that at a meeting of the Trustees of the Agricultural College, Hon. Phineas Barnes of that city was elected President of the College, and his salary was by vote fixed at $3000 per year.

—No inconsiderable portion of the *Ohio Farmer* is devoted to notices of the organization of new County Wool Growers' Associations and the meetings of old ones. Farmers in Maine and elsewhere are also astir as never before.

—A Hampton Falls, N. H., correspondent of the *Country Gentleman* says, "Our farmers will not use anything dug from the salt marshes, when fresh mud can be obtained, considering the latter much more valuable."

—The *Country Gentleman* notices the importation of a lot of English Lincoln sheep, by Samuel Campbell, New York Mills. They were thirty-five days on the voyage, and ten ewes were lost. Fifteen ewes and two rams survive and are now thriving finely.

—After a discussion by the New York Farmers' Club on the best means to prevent the ravages of mice, the chairman, Alderman Eli, summed up the arguments by remarking, "It seems, then, that the remedy for domestic vermin is, to be surrounded with rattlesnakes, black snakes, and garter snakes."

—The New Orleans *Times* says that the sugar crop of Louisiana this year will reach 50,000 hogsheads, against 16,000 last year; that only extraordinary obstacles will prevent a production of 100,000 next year, and that the old average of 450,000 hogsheads will be restored in three years.

—An Indiana farmer uses poles instead of tile for draining, by splitting them through the middle, then start the heart with a gouge, and take it completely out with a tool made like a bent drawing knife. Two halves are then nailed together with sixpenny nails, when with a tool made like a huge pencil-sharpener the ends are worked off so as to fit each other. Joints need not be tight.

—Mr. A. Townsend, Oconomowoc, Wis., informs the New York Farmer's Club that his Delaware grapes bear in 16 months from starting the vines or layers. He layers the ripe wood of the last sea-

son's growth in boxes made of lath, so open that the roots pass through the sides and bottom. In the fall or spring he removes them to the vineyard, and has fruit the next September.

—In reply to the remark of some one that wild grapes which run on living trees are vigorous and healthy on hillside and swamp, all over the country, a correspondent of the *Rural World* says that in scores, perhaps hundreds of rambles in the woods, during the past fifteen years in Missouri, he has found the grape partially or completely rotted on the trees, alike in the vicinity of cultivated fields and in the depths of the "grand old forest."

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A JERSEY COW.—A thorough bred Jersey cow, belonging to Mr. Daniel S. Brown, of West Cambridge, Mass., though three months less than six years old, had added six calves, all heifers, to her owner's stock—the two last, her only twins, being now several weeks old, are at her side. Last year she calved in February. Beginning in June, her milk was kept separate, a week or two, occasionally, for four months, and her average product of butter, at that length of time after calving, was found to amonnt to 9 1-2 lbs. per week. Her keeping was simply pasture feed. No meal nor messes of any kind were given to her, excepting the usual corn stalks when the grass failed in the latter part of the season.

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THE CONCORD GRAPE. It will be remembered that the prize of $100 offered by the Hon. Horace Greeley for the best grape for general cultivation was awarded to the Concord. This decision was recently under discussion by the New York Farmers' Club, when Mr. Nichols said, "I have 40 varieties, and I find that my family will pick the Concord first." Mr. Cummins—"I have a similar experience. While there are nice grapes in my hot house, my family pick Concords for choice." Mr. Dodge—"Of 18 choice bearing varieties, I prefer the Concord." Mr. Meeker—"In the warmer parts of the country the Concord rises in quality and is highly prized."

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THE QUALITY OF WOOL is tested by taking a lock from the sheep's back, and placing it on a surface representing an inch in length. If the spirals count from thirty to thirty-three in that space, the wool is equal to the finest "Electoral" or Saxony wool. The staple is inferior accordingly as it takes a lesser number to fill up the same space.

THE JAPAN LILY.

In the weekly NEW ENGLAND FARMER of April 7th, 1866, we gave a cut of the flower of this magnificent Lily. We have now the pleasure of showing a plant growing in a pot. As the name imports, it was introduced from Japan, and proves to be hardy, and a great acquisition to the garden. The propagation is simple and certain. Mr. Breck, in his Book of Flowers, endorses the following directions for their cultivation in pots, as represented in the cut:—

"I shall detail the practice I have pursued

with success for some years. Immediately when the bulbs go to rest, in the autumn, is the proper time to repot them. By no means destroy the old roots, but carefully place them amongst the fresh soil. If large examples, for particular display, are required, large pots may be employed, and half a dozen flowering bulbs placed in each pot. The soil I use is rough peat. The pots should be well drained, and the crown of the bulb just covered with the soil; when potted, they should be placed in a cold pit or frame, in order to prevent the soil from freezing, although frost will not injure the bulb. There is scarcely any plant which is so much benefited by liquid manure as the Lily. If used in a clear state, and considerably diluted, this water alone may be applied for at least a month before it comes into flower.

"If the object should be out-door cultivation entirely, I should recommend them to be planted in beds; their effect is exceedingly grand. Excavate the soil eighteen inches deep, and fill in the bottom, a foot deep, with very coarse peat, intermixed with one-fifth of decayed manure or leaf mould. The remaining six inches may be entirely peat. If the bulbs are large enough to bloom, plant them twelve inches apart every way.

"All our native Lilies are beautiful, and very much improved by cultivation. While we are bringing together, from the ends of the earth, the treasures of Flora, let not our own be neglected. These may be taken from our fields and meadows, when in bloom, by carefully taking them up with a ball of earth, and in a few years will richly repay the trouble."

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Dwarf Pear Trees, Currant Bushes and Shrubbery.—These plants and many others need attention, now that the deep snows are settling about them. The snow softens around them on the surface in the day time, and as night approaches freezes again, but continues to settle below, and drags down he branches imbedded in it, and breaks them at their junction with the stem of the tree or bush.

At this time of writing, Feb. 8, the snow is sufficiently hard to bear up a man, and has already caused some destruction among pear trees and currant bushes. It settles more or less every day. It is already so compact as to require a stout spade to get it away. Delay will be dangerous in this particular.

## FALL AND WINTER FEED, AND CARE OF SHEEP.

Sometimes injurious results arise from sudden *changes in food* in winter as well as in change of pasture. Sheep should not be kept out late in the season, exposed to the autumn rains and cold storms, with fleeces wet for a week at a time; nor in the winter when the weather is inclement. This absorbs the heat from their bodies, and uses up what little nutriment they get in the frost-bitten herbage. In such cases, the wool is left almost without support, a weak place remains in it so that the weight of the summer growth breaks it in two. Then the farmer *wonders what can make his sheep shed their wool so much!*

This may be fairly imputed to neglect in the fall. Feeding upon sour, frozen grass is apt to produce a relaxed state of the bowels, while a sudden change from such food to dry hay, is likely to induce constipation.

Sheds to protect the sheep from the storms of autumn, a few roots, and a little good hay once each day, would ensure healthier sheep, better lambs, better wool and heavier fleeces. Sheds are also necessary to protect sheep from the burning suns of summer. Rain, dews, and hot sun have an injurious effect upon wool. Wool contains a large amount of fixed oil, which the hot sun extracts and renders the wool harsh. To understand what this influence is, examine its effect upon a *black fleece*. When it first begins to grow, the top of the wool is as black as the bottom, but after being exposed to the sun a change in color takes place. It has parted with some valuable constituents. A similar effect takes place, too, when wool is exposed to a high temperature after being wet, whether on the sheep's back or being dried previous to manufacturing, or when made into garments. If an overcoat, after being wet, is submitted to a high temperature for the purpose of drying, it will be found to have changed its character—that the wool has become harsh and brittle, and that it will more easily tear than before.

After sheep are brought to their winter quarters, the treatment should be uniform and judicious. They should always be treated

kindly, so as to create a sympathy and confidence between flock and flock master. They should have a variety of nutritious food, be fed sparingly not wastefully, and what they do not eat, regularly taken away. Meadow hay, or poor hay of any kind, is the most expensive fodder the master can use, excepting occasionally as a change, and never any longer than while they eat it greedily. Fleeces of young ewes that have been badly kept will—after a winter of good treatment—gain a pound and a half, and the wool will be worth five or six cents more per pound than their former fleeces. Poor feed will not supply a sufficient amount of heat in cold weather to keep the body warm, so that nature comes to the assistance of the poor animal and starts fine fibres around the bottom of the wool, sometimes "cotting" it, as it is called, and at others producing what is termed "mess-bottomed" wool. In either case it is a serious injury to the wool, for the short fibres are of no use, while the true staple is short and weak.

Many experiments have been made with regard to the effects of *temperature* upon sheep. One by Lord Ducie says,—100 sheep were placed in a shed and ate 20 lbs. of Swedish turnips each, per day, whilst another 100 in the open air ate 25 lbs. each, and at that rate for a certain period. The former weighed 30 lbs. more than the latter, plainly showing that, to a certain extent, warmth is an equivalent for food. The wool on *those that gained* would be heaviest and superior in quality to that of the others. He also tried the following experiments:

Five sheep were fed in the open air between the 21st of November and 1st of December. They consumed 90 lbs. of food per day, the temperature being 46 degrees. At the end of this time they weighed 2 lbs. less than when first exposed. Another 5 sheep were placed under shelter and allowed to run—the temperature being 49 degrees. They consumed at first 82 lbs., then 70 lbs. per day, and increased in weight 32 lbs. Another 5 were placed in the same shed but not allowed any *exercise*. They ate at first 64 lbs. and increased 30 lbs. Another 5 were kept in the dark, quiet and covered, and ate 35 lbs. and increased 8 lbs

The deprivation of *exercise* is unnatural, and could not result favorably in the long run. As with other animals, it may be well for a short period, during the process of fattening, but always, probably, at the risk of the health of the animal. Sheep not only need exercise, but *perfect ventilation* in their apartments and never should be in crowded numbers. These experiments teach us that a moderate temperature, moderate feeding and exercise, pure air, plenty of light and water, with salt always at their command, are what is required to produce good wool, good lambs, and good mutton at small cost. When these essentials are faithfully observed, there will be little danger of disease affecting the flocks.

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## LETTER FROM THE FARM.

### Short Horn Durham Cows, Alderneys, &c.

Gents.—The beautiful fields of last summer and autumn having put on their garment of white, to shelter themselves from rude winds and pinching frosts,—and to gather fresh sources of supply for the work they will be called on to commence in a few weeks more,—I have been compelled to seek instruction indoors. Sometimes this has been among books, then in social intercourse with thinking and observing minds, and again in looking upon the condition of those faithful animals who labor for us, and without whose aid our agricultural prosperity would be at an end.

So, weary of the pen and the books, and caring little for young floods and huge but wasting drifts, I have been about to see how my brother farmers are spending their time, and how their cattle look in their stalls.

My first call was upon Mr. Charles D. Tuttle, a young man "just returned from the war," to enter upon the more peaceful pursuits of a war against weeds and ancient prejudices. He was one of the first to spring into action when his country called, and was in that memorable march through Baltimore, which showed the enemies of our flag that it was still to be triumphant on every rood of our soil. He "fought the good fight," but, fortunately, returned to domestic life unharmed. There was still another battle, however, in which his skill was to be tested,—and one dreaded by many a brave fellow with more emotion than when shot and shell are flying,—in which, by judicious flanking and countermarching, he proved himself equally victorious! And now, on the old homestead, instead of one, there are two young hearts ready to

fight the battle of life on the field of Mars, or in the more peaceful and inviting fields of Ceres and Pomona.

I found that in his bays, Mr. Tuttle had deposited in the fall some 75 tons of fodder, 60 of which were English hay; and in his stalls were about 25 head of cattle, all of which were clean and in excellent flesh. Most of them were cows giving milk, and producing from five to thirteen or fourteen quarts per day, according to the time of having dropped their calves.

I was especially pleased to find among his stock, several *Short Horn Durham* grades, which promise to become very fine animals. There are no cows among us which possess, to my eye, so much beauty as a grade of the *Short Horn* and *Ayrshire*. In this mixture, the former loses something of its bulk, which is rather large for New England pastures, and gains in that delicate symmetry which distinguishes the Ayrshire; while the Ayrshire gains size, and, perhaps, milking qualities. The finest herds I have ever seen in dairy districts were made up from this mixture, and in some cases with what is called "native" cattle, in which Ayrshire blood was probably present. All about the barn indicated thrift and contentment.

The farm contains about 100 acres of excellent land. When Mr. T.'s father entered upon it, some 30 or more years ago, it produced but five or six tons of English hay. It now yields 60, and the proprietor thinks 100 tons may be cut annually by a higher course of cultivation.

My next visit was to the farm of JOSEPH L. HURD, Esq., a native of this town, but now residing in Detroit. The farm is managed by his brother, Mr. WILLIAM HURD, and consists of 400 acres of every variety of land, from the deep bog to light, sandy loams. Some portions of it are covered heavily with wood and valuable timber.

In the revolutionary war, when the British were hovering on our coast or in actual possession of Boston, and vicinity, the buildings of Harvard College, at Cambridge, were vacated, and officers and students occupied the large house that then stood on this farm,—but which was destroyed by fire some ten years since.

For two or three years past a large flock of sheep has been kept on the farm, but having strong jumping and roving propensities, they were gradually sold off. There is now in the barns a stock of fifty-two head of cattle, including some five or six horses. Among the stock there are thirty-one head of pure *Jersey* or *Alderney* cattle, including two bulls, one four years old, and the other about one year old. A more beautiful sight has rarely been presented to the eye of those partial to this breed, than this stock in Mr. Hurd's stalls. He states that the cows are hardy and healthy; good feeders and milkers, docile in disposition, and probably the best butter makers in the world. They are nearly all of the fawn color, and almost as sleek and beautiful as fawns themselves.

Everything about the barn, cattle, fodder and implements, was neat and orderly. The whole stock has been fed—and will continue to be fed through the winter—upon meadow hay and shorts, as a large amount of that hay had accumulated in the barn. It was sweet, and the cows were eating it freely.

Upon this farm there is a vineyard of about four acres, mostly set with Concord grapes. I did not go to it, but understood that it is doing well. At another time I will speak of other farms. Truly yours, SIMON BROWN.

P. S.—Since visiting Mr. Hurd's farm, I understand that it is his intention to sell all his neat stock at auction in the course of a few weeks. There will then be a rare chance to obtain some of the finest Alderney stock that has been presented for a long time.

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## AGRICULTURAL COLLEGES.

A paragraph copied from the *Nation*, of which the following are the opening and closing sentences, has been copied by nearly all the agricultural press as well as by most newspapers of the country:—

"The work of organizing and starting so novel an institution is not to be done piecemeal and at odd hours. It must be the event of the life of him who accomplishes it, not an incident in his career. It must be his study, not his diversion. * * * The unity of purpose, the clearly defined plan of a single head, are far more likely to be successful than the conflicting plans and shifting methods of a dozen heads."

Col. S. D. Harris, editor of the *Ohio Farmer*, who in years past was connected with the Board of Education in Ohio, favors quite a dif-

ferent policy. From a statement of his views, in a late number of his paper, we copy the following:—

"The principles and practices of our normal schools and teachers' institutes, form the most rational and feasible basis for the commencement of the proposed agricultural college. This will include the two essentials of economic possibility and popular regard. In such an institution the machinery is not expensive nor the idea forbidding to common minds. It would also accommodate the exigencies of farm life, by allowing such boys to attend during the leisure season of winter, as could not well be spared during the summer; and in this way they would be like the bees which fly to and fro between the hive and pasture, bringing in the honey they gather and inciting others to a like adventure. Neither would this temporary attendance conflict with the higher privilege of such boys as could spend the entire year at the institution, for whom a more thorough course could be provided.

Let the boys feel that they are to enjoy facilities for learning how to become successful farmers, and do not frighten them by a grim show of Latin, Greek and mathematics. Organize your agricultural college upon this basis according to the means in hand, *and let it grow* according to its desert, instead of waiting for the splendid university to appear in all its unapproachable glory."

In connection with this the *Country Gentleman* alludes to the suggestions of the late Henry Colman, in reference to agricultural education, To secure 1st, "the thorough indoctrination of the pupil in natural science, and in mechanical philosophy, so far as it can be made to bear upon agriculture,"—and, 2d, a farm which should afford him "an example of the best management, and the best practices in husbandry," Mr. Colman recommends that the students should lodge and board with the farmer or others in the neighborhood, and that,

"One or two instructors should be employed constantly for teaching the main branches of education, and a competent farmer should be employed to manage the agricultural department, and to give the necessary practical instruction. Beyond this, no resident instructors would be required,—but regular and full courses of lectures and experiments in geology, mineralogy, botany, comparative anatomy, the veterinary art, and chemistry, by competent professors in these sciences, who might be employed for those objects annually, without the necessity and expense of constant residence,—as is now frequently done at our medical schools. In this way, the best talents in the community might be commanded, and at a reasonable expense."

With regard to instruction, he also throws out, as worthy of consideration, the idea of location near some established college which might afford additional facilities for scientific lectures or collections.

## DELEGATES TO SOCIETIES.

At the late meeting of the Massachusetts Board of Agriculture, delegates to visit the Fairs of the various societies of the State were assigned as follows:—

*Essex Society*—Mr. Ward of Munson.
*Middlesex*—Mr. Thompson of Nantucket.
*Middlesex South*—Dr. Loring of Salem.
*Middlesex North*—Mr. Birnie of Springfield.
*Worcester*—Mr. Saltonstall of Newton.
*Worcester West*—Mr. Smith of Sunderland.
*Worcester South*—Mr. Davis of Plymouth.
*Worcester Southeast*—Mr. Porter of Hatfield.
*Worcester North*—Mr. Hyde of Lee.
*Hampshire, Hamden and Franklin*—Mr. Billings of Lunenburg.
*Hampshire*—Mr. Sanderson of Phillipston.
*Highland*—Mr. Slade of Somerset.
*Hampden*—Mr. Clement of Dracut.
*Hampden East*—Mr. Johnson of Framingham.
*Franklin*—Mr. Stockbridge of Hadley.
*Berkshire*—Mr. Bull of Concord.
*Housatonic*—Mr. King of Barnstable.
*Hoosac Valley*—Mr. Cleaveland of Tisbury.
*Norfolk*—Mr. Knowlton of Upton.
*Bristol*—Mr. Cole of Williamstown.
*Bristol Central*—Mr. Watkins of Hinsdale.
*Plymouth*—Mr. Hubbard of Brimfield.
*Barnstable*—Mr. Thatcher of Lee.
*Nantucket*—Mr. Ward of Shrewsbury.
*Martha's Vineyard*—Mr. Sewall of Medfield.

RHODE ISLAND.—At a meeting of the Rhode Island Society for the Encouragement of Domestic Industry, at Providence, Feb. 6th, W. Sprague was elected President; Joseph H. Bourn, Cyrus B. Manchester, and Obadiah Brown, Vice Presidents; W. R. Staples, Providence, Secretary and Treasurer. A general exhibition, cattle show and fair during the year was decided upon.

*For the New England Farmer.*

## THE WOOL TARIFF.

The intimations which for the last few weeks have been coming from Washington, in relation to new propositions for changes in the tariff upon wool and woolens, have been received by the farmers of the country with well grounded apprehension and alarm. The pith of these new recommendations is embodied in the following sentence. "No protection upon the raw materials of wool, coal and iron, but to award the protection of the government to those industries which require much skilled labor and large capital." In concise English,

this means precisely, protection for the manufacturers, but none for farmers. Old King Solomon was perhaps not far from right when he said there was nothing new under the sun; for these apparently new doctrines are simply a revised edition of the tariff of 1842, which was founded upon the principle of protection to manufacturers, so they might afford to pay a good price for wool. How high a price they did pay, wool growers very well remember, as under its beneficent operations wool depreciated in value from forty-seven to twenty-seven cents per pound, and to how low a figure it would have fallen, had not the tariff of 1846 taken its place, we can only conjecture. The fact is self-evident, that people, of whatever trade or profession, will buy where they can buy the cheapest, and sell in the best attainable market. Hence, if manufacturers can obtain their wool cheaper in South America than in New England, they will most assuredly do so; and our wool may lie in our wool rooms till the day of jubilee, which for farmers will probably very soon come.

With proper encouragement the farmers of the United States can raise all the wool which is needed for home consumption, instead of from one-half to three-fifths of a supply, as is now the case, and that interest which in the courtly language of our Washington dispatches, "requires much skilled labor and large capital" may be equally prosperous with us.

Another argument used is that if Texas or Missouri can raise wool at a profit at a very low figure, New England has no right to complain, and may quit the business. Grant this, ye most worthy high priests of free wool; but will you have the goodness to tell us whether, if by proper protective duties wool-growing is made moderately profitable in New England, the profits of Texas wool-growers would not be proportionally increased and the whole country thereby prosper together. In the years which are gone, I used sometimes to hear it threatened that New England, being extremely pestiferous, must be left out in the cold, but this is the first practical recommendation looking to that result, which has claimed the attention of Congress and the American people. Although the whole thing is too supremely ridiculous to be thought of without coleric ebullitions from one's inner man, yet, for the moment, let us examine these brave words about "skilled labor and large capital."

I confess that my perceptions are so obtuse that I am not able to see that it requires much more skill to tend a loom or spindle, than it does to carry along in order all the multifarious interests which center about the farm. "Large capital," too, forsooth! Didn't anybody ever stop to think, suppose, of the millions of farmers scattered over this country, owning from forty, to, perhaps, four thousand acres each, varying in price from fifteen to one hundred dollars per acre; its vast amount of teams and tools required to carry on all this business—little perhaps to each individual, but enormous in the aggregate. Then, too, our flocks of American Merinos and English mutton breeds, our herds of Durhams, of Devons, and of Alderneys, to say nothing of the vast value of other kinds of stock; and after looking this all over, will not people begin to think this interest also requires "much skilled labor and large capital," as well as others? We all know that the amount of capital employed in farming is immeasurably superior to that employed in any other avocation.

All we ask is equal protection with other industries, or failing in that, if we must have free trade in wool, let us also have free trade in cloths, so that in homely but emphatic language, all parties may understand that "sauce for the goose is sauce for the gander."

*Cornish, N. H., Jan.* 7, 1867. E. R. S.

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*For the New England Farmer.*

## NOXIOUS ANIMALS, INCLUDING INSECTS.---NO. II.

### THE RAT.

The whole rat family, including mice, can be excluded from cellars and granaries, if the same are properly constructed; and no new ones should be built without being double proof against these vermin. Whether barns have been, or can be made secure in this respect, without too much inconvenience and expense, I do not know. If there is a happy man who has all his stores secure from depredations and defilement, let him tell us how the thing is done. In the meantime, before we can get our cellars and buildings in a safe condition, we will shoot, trap, poison and scare the rascals, to the utmost of our power and ingenuity. Most families employ one or more cats to aid in the extermination of rats and mice; but often, from want of neatness, cats are nearly as objectionable as the little animals they are expected to destroy, but do not. Rat flesh is not a favorite repast with Pussy, and she is not generally inclined to hunt the Norway very vigorously. We have discarded cats, partly on account of their offensive habits, partly because they have killed for us more chickens and birds than rats, and finally because a few good traps, well attended, will catch more mice than the best of cat-mousers. The best mouse trap is that very common one made of a disk of wood, with half a dozen holes in the periphery, in each of which is a wire-spring garrote.

Rats are exceedingly wary of traps: but by baiting them with meal in some partially dark nook, contiguous to a safe retreat, they will come out to feed in the day time, and by taking a concealed position with a shot gun, they can be laid out one or more at a time. And notwithstanding the reputed caution of Mr. Norway, the terrific explosion of the gun, the smell of burning gunpowder, and the sprinkled blood of the dead, the survivors will continue

to return to feed in the same place, till the last one is slain.

Once or twice a year our cellar is invaded by a *posse comitatus* of these rebels in grey. As soon as their entrance is known, I am after them with all imaginable devices of traps, one after another, seldom catching more than one in the same trap, until after the lapse of some weeks. A tilting cover, on which is sprinkled a little meal, over a barrel partly filled with water, has been my most successful trap, and many a rampant blade entering in anticipation of high feast and revelry, has found like Shakespeare's Ophelia, "too much water." Sometimes all the traps are insufficient, and poison must be employed. Parson & Co.'s preparation of phosphorus, or "vermin exterminator" will generally silence them; though I have recently had some visitors who refused this medicamentum, and would not leave till I fed them with arsenical bread and butter, not in the cellar, but in their retired walks about the outbuildings, where there was small danger of its being mingled with food of man or domestic animal.

It has been said that the oil of rhodium has, to rats, such a fascination and irresistible attraction, that by its use they may be induced to enter any sort of a trap or eat any medicated preparation. My experience does not verify the dictum. As to the various devices for frightening the rascally rodents away, few are reliable—none infallible; and when successful, only relieve us at the expense of our neighbors.

I. B. HARTWELL.

*Wilkinsonville, Mass.*, 1867.

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*For the New England Farmer.*

## ROTATION OF CROPS IN ENGLAND.

Having been requested by some of my neighbors to write to them again through the NEW ENGLAND FARMER, I have thought that, as the smallest flower does not live to itself, but sends forth its fragrance and smiles upon every passer by, so it is the duty of every man to do all he can to benefit, cheer and encourage his fellow man, and to exercise feelings of gratitude that we are endowed with reasoning faculties, and possess the power to communicate one with another. If I can benefit any one with my limited ideas, I shall feel amply paid for my trouble in writing.

I have a number of "extracts" on file in my memory about the English farms and modes of farming, that may benefit some one in this country; but to be benefited we must lean one towards another, and give up our stiff-necked notions and prejudices. I have one thing to say, Mr. Editor, that since I came to this country, I have been greatly benefited by the ideas advanced by your numerous correspondents, and as long as I am able to pay for your paper, I shall not throw it up because you print "every body's ideas." I will say to my brother farmers, let our ideas be stated, no matter though rather vague. Some one may be benefited. But enough of this for the present.

I herewith send you a rotation of crops suitable for the different soils in England. Perhaps they may suit the soils in this country. If any one wishes to experiment upon them I should be glad to hear the result.

A variety of circumstances conspire to render the alternation of different crops an indispensable part of successful husbandry. Some crops appear to draw from the soil such liberal supplies of certain principles which can only be slowly restored to it again, that the soil is, with respect to such produce, exhausted; and the unintermitted succession of it would be unprofitable. Manure might renew the fertility of the soil, but it is interdicted by the expense of supplying the quantity required. A summer-fallow would prepare it for another crop, but this involves the expense of plowing while the land is unproductive. The most effectual means, therefore, of relieving a soil, and of obtaining from it the maximum produce, consists in a rotation of crops, which draw from the soil different principles, or different proportions of the same principles. Thus, white crops, viz: wheat, oats, &c., are extremely exhausting, but afterwards the soil will bear a good crop of beans, turnips, or tares. Probably the difference in the nourishment required by these fallow crops is far from being the whole advantage that results. The hoeing and harrowing they receive may enable the soil to replenish itself from the atmosphere, while their shade and the extirpation of weeds attending their culture prevents waste.

The following rotation of crops has been adopted by experienced agriculturists; but as time rolls on, change takes place, new experiments are tried, and new things take the place of the old.

| CLAY. | CLAYEY LOAMS. |
|---|---|
| 1st yr., turnips or cabbages. | Turnips or cabbages. |
| 2d " oats. | Oats. |
| 3d " beans and clover. | Clover. |
| 4th " wheat. | Wheat. |
| 5th " turnips or cabbages. | Turnips or cabbages. |
| 6th " oats. | Barley. |
| 7th " beans or vetches. | Beans. |
| 8th " wheat. | Wheat. |

| RICH AND SANDY LOAMS. | RICH AND SANDY LOAMS. |
|---|---|
| 1st yr. turnips and potatoes. | Turnips. |
| 2d " barley. | Barley. |
| 3d " clover. | Clover. |
| 4th " wheat. | Wheat. |
| 5th " beans. | Potatoes. |
| 6th " barley. | Barley. |
| 7th " peas. | Peas. |
| 8th " wheat. | Wheat. |

| PEAT EARTH. | LIGHT LAND. |
|---|---|
| 1st year, turnips. | Turnips. |
| 2d " barley. | Barley. |
| 3d " clover. | Clover and rye grass. |
| 4th " wheat. | Clover and rye grass. |
| 5th " potatoes. | Clover and rye grass. |
| 6th " barley. | Peas. |
| 7th " peas. | Wheat or rye. |
| 8th " wheat. | Wheat. |

For soils that have a chalky substratum, and for gravels, the same course as above given for peat earth, is recommended.

If any one thinks of growing cabbages to any extent, I would say that he must be careful how he feeds them out; as if fed too liberally they give a very unpleasant flavor to beef, milk and butter. They are not cultivated so much as formerly,—turnips having succeeded them.

Such are some of the systems of rotation adopted in England. How far are they adapted to the soil and climate of this country?

EDW'D HEBB.

*Jeffersonville, Vt., Dec.* 17, 1866.

REMARKS.—Instead of one year, New England farmers generally allow something like five years out of eight, to grass crops. First, potatoes, then corn, seeding down with oats, rye or wheat, and five years to grass. Often, however, corn is planted first year, and the land seeded to grass the second. And of late the practice of inverting the sod in August, applying a little manure and seeding with grass, without any grain, appears to be gaining favor on many "grass farms." We thank Mr. Hebb for introducing the subject, and believe its discussion will prove instructive and of practical value.

## WAGES OF FARM LABORERS.

In the report of the Commissioner of Agriculture, for the month of January, we find this subject treated at considerable length, and some interesting statistics embodied in the article, which is headed "The rate of wages of farm laborers in the United States," and is based on returns from every State and Territory and nearly every county in the United States. The returns from the Northern States are the most full and complete, but very general returns were received from the Southern States.

The method adopted to obtain this information was by sending circulars to officers of agricultural societies and others who could be relied on to collect the facts with accuracy and judgment, and the final statement, as made by the Commissioner, represents a summary of 1510 formal statements forwarded to him, and each one of these statements had been compiled from several others comprising portions of counties and districts.

The result of the inquiry shows a general and marked increase in the rate of wages paid farm laborers during the last thirty years. As compared with the rates of 1835, the increase has been 70 per cent., while the present rates show an increase of 50 per cent. over those of five years ago. The higher wages paid in this country, and the greater comfort and higher social position of the farm laborer, naturally attracted foreigners, and the greatly increased immigration, it has been feared would, through the competition introduced, lower the rate of wages. That this fear was unfounded is best shown by the fact that the demands for labor have more than kept pace with the supply. The present generation need not fear any overplus of laborers.

The present average rate of farm wages in this country is $28 per month for white laborers in the Northern and Western States, and $16 per month for freedmen at the South. In England the present rate of farm wages is $14 per month, and upon the Continent of Europe the rates are still less. The rates of wages in the several States differ just in proportion to the multiplication of separate industries, modified in new States in process of settlement by the increased demand for consumption occasioned temporarily by incoming settlers who are as yet non-producers, or in the mining States and territories by the employment of the majority in mining. The following is a table of average wages per month of farm laborers employed for the year in the different sections of the country:—

| | | | |
|---|---|---|---|
| Eastern States | $33 30 | Southern States | $16 00 |
| Middle States | 30 07 | Oregon | 35 75 |
| Western States | 28 91 | California | 45 71 |

The following table shows the average rate of wages paid per month for farm laborers in the several States and Territories. The first column shows the rate per month by the year, without board, and the second the rate with board:—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Maine | $27 00 | $17 44 | | Tennessee | $19 00 | $12 58 |
| N. Hampshire | 32 74 | 22 48 | | West Virginia | 25 35 | 16 47 |
| Vermont | 32 84 | 21 00 | | Kentucky | 20 23 | 13 65 |
| Massachusetts | 38 94 | 22 36 | | Missouri | 26 75 | 18 08 |
| Rhode Island | 34 40 | 20 50 | | Illinois | 28 04 | 18 72 |
| Connecticut | 34 25 | 21 54 | | Indiana | 27 77 | 18 72 |
| New York | 29 57 | 19 32 | | Ohio | 28 46 | 18 96 |
| New Jersey | 32 27 | 18 98 | | Michigan | 31 26 | 20 48 |
| Pennsylvania | 29 91 | 18 84 | | Wisconsin | 30 84 | 19 87 |
| Delaware | 24 93 | 13 25 | | Minnesota | 31 65 | 21 10 |
| Maryland | 20 36 | 12 76 | | Iowa | 28 34 | 18 87 |
| Virginia | 14 82 | 9 36 | | Kansas | 31 03 | 19 81 |
| North Carolina | 13 46 | 8 15 | | Nebraska Ter. | 38 37 | 24 64 |
| South Carolina | 12 00 | 7 66 | | Utah Territory | 44 71 | 26 32 |
| Georgia | 15 51 | 9 67 | | Colorado Ter. | 67 50 | 42 12 |
| Florida | 18 00 | 12 12 | | New Mexico | 25 00 | 16 50 |
| Alabama | 13 40 | 9 80 | | California | 45 71 | 30 35 |
| Mississippi | 16 72 | 11 58 | | Nevada | 75 00 | 60 00 |
| Louisiana | 20 50 | 12 42 | | Wash'n Ter. | 52 25 | 36 25 |
| Texas | 19 00 | 12 72 | | Dakota | 30 20 | 20 00 |
| Arkansas | 24 21 | 15 80 | | Oregon | 35 75 | 22 53 |

In the East the cost of living, and in the West the scarcity of labor, has a tendency to

increase wages, yet in populous, central sections of the country, with easy communication by rail and water, the rates are nearly uniform, especially with board. The Territories, such as Nevada and Colorado, are of course exceptional, and show very high prices. And in the South the disturbed state of affairs, following the emancipation of the slaves, renders the rate of wages comparatively low.

In those States where regular labor is most general among the inhabitants, and where it is prosecuted in the greatest variety, laborers, as a rule, receive the highest wages. Massachusetts is given as an illustration. With a poor soil, and not properly an agricultural State, and with only 69,636 laborers in agricultural pursuits to 271,241 employed in mechanic arts, as the State census of 1865 shows, she pays higher monthly wages for farm labor than any other State except California, viz., $38.94 without board. This, it is argued, is the result of the great variety of labor in the State, bringing consumers and producers nearer together. Another cause of high rates of labor in this country is the superior intelligence and activity of the laboring classes.

The difference between wages without and with board varies quite regularly with the cost of staple articles of food; being higher East than West, and higher in the Territories than in the States. In the South, the food of the laborer consisting mostly of one or two articles, such as corn and bacon, the price of board is quite low. Thus in the Northern States the difference between the average of wages with board and without is $12.51 per month. In the Southern States, where the laborers are mostly freedmen, the difference is only $6.26 per month.

Tables are also given showing the rate of wages per day, and the average price paid in the different States for specific items of labor, such as harvesting and stacking wheat, hay, corn, etc. The same general result is attained as in the rate per month.

The rate of labor in Europe, as above remarked, is much less than in this country. In England the average income of a workingman is $5.62 per week, but farm laborers receive a little less than two-thirds as much, or on an average $3.50 per week. Allowing for holidays, etc., $168 is estimated as a year's earnings. In this country the farm laborer gets, on an average, $28 per month, or for eleven months $308, which, even in currency, will, dollar for dollar, buy more food than the English laborer's gold.

## CHEMISTRY OF THE SEA.

Every number of the *Boston Journal of Chemistry and Pharmacy* contains notices of new discoveries in the arts and sciences, but especially in chemistry. The last number contained some wonderful statements made in regard to the color of the stars, their variable brightness, and their sudden appearance and disappearance in the heavens. DR. JAMES R. NICHOLS, Editor of the *Journal*, says that *chemists* are now studying the heavenly bodies with as much industry and zeal as astronomers, and that through the wonderful results of *spectrum analysis*, the chemical nature of the materials of which the stellar worlds are constructed, is beginning to be understood. From an editorial on the *Chemistry of the Sea*, we take the two interesting articles given below.

"Everything in nature certainly has some palpable use. It is no accident or casual circumstance that the sea contains large quantities of the lime and magnesia salts. What stupendous results flow from this soluble carbonate of lime! Without it where could shell-fish procure their coverings, or the coral polyps the material for their curious structures? The shell of the clam, the oyster, the snail, the lobster, etc., is composed almost wholly of carbonate of lime; from what source do the fish obtain their calcareous coverings? Young oysters in two or three years acquire a size suited to be used as an article of human food. The little gelatinous speck floating in the water at birth has through some channel obtained two or three ounces of solid stone armor in the short space of thirty or forty months. It had no power to chisel it from limestone cliffs, and they are not always found in the vicinity of calcareous deposits. It has absorbed or drawn it from the water in which it moves; no other source supplies it. How immense are the beds of shell-fish upon the shores of the ocean! what a vast concentration of the lime, once held in solution, is effected by these feeble creatures, ranked among the lowest in the order of animate creation!"

IODINE.—All *deep sea plants* are more or less rich in iodine;—[Iodine is used in medicine as an irritant.—Ed.] but the *Palmata digitata*, that leather-like and greasy weed, with long round stalk and wide branches, has it in greatest abundance. The Irish call it tangle or lieach, and it is found strewn along our shores in large quantities after storms. But even this holds but a very small quantity. Every ounce of iodine upon the shelves of the

apothecary has required at least *four hundred pounds* of weeds in its production. About thirty tons of the wet plants give one ton of *kelp*, as the incinerated mass is called, and from this nine or ten pounds of iodine is obtained. This would seem to involve a prodigious amount of labor and expense, bringing a high price upon the products. But the price is exceedingly moderate, seldom ranging in the English market above three dollars per pound. It would never pay at such prices to manufacture if the weeds did not yield other valuable products, as potash and soda. Without stopping to consider in detail the production of these salts, it may be interesting to know that probably more than *four thousand tons* of potash and *two thousand* of soda were introduced into the English market the past year, through the burning of sea-plants upon the coasts of Scotland and Ireland. The entire products of iodine from all sources must reach nearly or quite five hundred thousand pounds. How great is the industrial value of that which seems the most repulsive and worthless of all the products of nature! To what science are we indebted for opening up this great source of wealth? The reader's reply may be anticipated,—Chemistry.

## LETTER FROM THE FARM.

"Truth is stranger than Fiction."

Those who go down to the sea in ships usually come back pretty deeply freighted with what are called "long yarns," and "fish stories," and astonish us with a rehearsal of the wonders of the great deep. But there are some things that take place on the dry land, equally as marvelous as that of "Jonah's swallowing the whale," or the "mermaid quietly combing her hair on the crest of a wave," one of which I will relate before I close.

Last week I gave you a few incidents of my winter travel at home, and now wish to say, that, extending my visits, I called at the farm of Mr. ELIJAH WOOD, of this town. He is well known as a persevering, money-making farmer, and an intelligent, liberal, and estimable man. His articles have added interest and value to your columns. Mr. WOOD is a practical and close manager. Wherever he labors upon the soil, he generally succeeds in making it yield him a fair remuneration. He has tested farming in nearly all of its varieties; in raising stock, as a principal interest; milk, in the same way; corn, as a leading crop, then potatoes or other root crops for market, and hay.

Last summer he sold $600 worth of hay, taking it from the field to his customers. He has had five horses and from twenty to *thirty-two* large oxen in his barn all winter, with fodder sufficient, at present, to carry them through. The fodder is good meadow-hay and cornstalks, butts and husks—the oxen feeding mainly upon the latter. Nearly all the cattle were in excellent flesh, some of them fair beef. He is testing this kind of farming for several reasons, which it is not necessary to mention here. He purchases manure, special or common, to an amount that he thinks would be nearly equivalent to what would come from the hay sold, if it were fed upon the farm. In addition to this, he has what comes from the fodder fed to the oxen, and one dollar a week per head, for keeping each of them. These oxen are intended for the spring market as working cattle. He intends to use six tons of superphosphate of lime the coming season.

Mr. WOOD'S barn is old and inconvenient. He is making preparations to build, or remove this one, and set it in the side-hill so as to drive into the gable, as his ground is admirably adapted to such a position.

One of the most remarkable circumstances that ever came to my knowledge was related to me by Mr. WOOD, with regard to one of the oxen. He had frequently noticed this animal rubbing his nose against a post near which he was tied, and occasionally an odor greeted his olfactories, not half so grateful as that which proceeds from a mow of good English hay. On giving careful attention he saw what appeared to be a small stick in one of the nostrils of the ox, and, after considerable effort, got hold of it with his thumb and finger, and drew out a stick *fifteen* (15) *inches* in length! It was about a quarter of an inch thick, and when laid even with the end of the nose, and alongside the cheek of the ox, reached above the eye! The ox continuing the rubbing, and some matter oozing from the nostril, Mr. WOOD procured assistance, and throwing a blanket over the head of the ox, as he stood in the stancheon, they proceeded to a minute examination, and extracted twelve (12) other sticks, not one of which was less than six (6) inches in length! One of these was a cornstalk 10 inches long and half an inch in diameter! Mr. WOOD'S statements were deliberately made in the presence of two or three persons, and, strange as the whole seems to be, we cannot doubt their entire correctness.

How they came there, or how long they had been there, is unknown. Some of the sticks have been preserved. The ox is in good flesh and is doing well.

### WOOL-GROWING PROSPECTS.

At the late meeting of the Maine Board of Agriculture, Mr. Jefferds expressed the opinion that the time is not distant when a pound of wool will be produced cheaper than a pound of cotton ever was or ever can be, with paid labor; and consequently, that the keeping of sheep for the production of wool, primarily, cannot be profitably pursued for any length of time in Maine or New England; as the advantages of other sections of the country for wool-growing are far greater than our own, and wool is one of the most portable of all agricultural products. He believes, however, that our circumstances are favorable to the raising of mutton sheep and the wools that some of them produce. Our farms are small, and sheep are usually kept in small flocks; our pastures are rich (when not over stocked) and forage good. Though he would have farmers watch the signs of the times, and though he believes an increased tariff on wool will be only a temporary relief to the New England wool-grower, still he thinks we should not be discouraged in sheep husbandry, as mutton is the cheapest meat that can be raised, and the expense of transportation will always secure to us the mutton market without serious competition.

### WENS ON CATTLE.

A correspondent inquires for a cure, without any particular description of their location or appearance. A few years ago Mr. Milton Smith, of Middlefield, Mass., cured a "Wen" as large as a hen's egg on the jaw of a three-year old steer by extracting an ulcerated tooth. A salve of soot, spirits of camphor, turpentine, and soft soap, in no very exact proportions, was recommended by J. W. Clark, of Wisconsin, in the *Country Gentleman* some time ago. Wens have also disappeared after the application of nitric acid and other caustics. Some years ago a correspondent of the Farmer said he cured wens by taking a tin cup, large enough to cover the wen, filling it about half full of unslaked lime, then nearly fill it up with soft soap, bind it on the wen tight, and tie up the animal so that it cannot lie down or rub off the cup, and in four or five hours the work is done. Some rub on a mixture of salt and tar, or soap and salt, while others have great faith in the efficacy of rubbing alone. On this subject an intelligent writer for the Albany *Cultivator* remarks:

In chronic swelling there is a deficiency of pure blood, ordinary natural circulation is obstructed or impeded, and foul matter, either from injured parts or active infection of disease, accumulates in larger or smaller masses. Now, if a wen or slow swelling be rubbed, the heat of it is increased by external friction and internal excitation, action. This increase of heat softens the induration, by causing a movement, and more or less interfusion of its fluid particles. By this means circulation is excited, and as whatever leads to arterial circulation leads equally to venous depuration, it follows, that as the arteries bring in new blood, and thus give new life and feeling to the part, the veins take away diseased and refuse matter, whether the result of collision or infection. Thus the cure proceeds as the circulation is increased, and restored; the veins taking away an excess of black foul blood, and thus reducing the swelling in the degree that the circulation is accelerated by rubbing; and when the circulation is completely restored, there is a cure. Thus does *rubbing* cure curonic swellings. J. W. C.

Some years ago, Mr. M. C. Peck, West Cornwall, Vt., sent us the following statement:

"One year ago last fall, I had a cow which, from all appearances had a wen growing on her neck; I at first administered a plaster of salt and tar, and drew it to a head, and in the spring I procured fresh green cicuta (cow-bane) leaves, and boiled them up and bathed the wen in the solution, leaving the leaves in; it wholly dried up in four weeks, so that she fatted sufficiently for beef. I have known others in this vicinity to cure them with the same remedy and keep them for years. Should you consider this of sufficient worth, you are at liberty to insert it in your valuable paper."

### BREEDERS' ASSOCIATION.

We learn by the *Country Gentleman* that the Association of Breeders of Thorough-bred Neat Stock, had a meeting at Albany, N. Y., Feb. 14th, for the election of officers, and the result was as follows:

*President*—E. H. Hyde of Stafford, Ct.

*Vice Presidents*—J. F. Anderson, South Windham, Me.; J. O. Sheldon, Geneva, N. Y.; Burdett Loomis, Suffield, Ct.; J. W. Freeman, Troy, N. Y.; E. D. Pierce, East Providence, R. I.

*Secretary*—J. N. Bagg, West Springfield, Mass.

*Treasurer*—H. M. Sessions, So. Wilbraham, Mass.

*Short Horn Pedigree Committee*—S. W. Buffum, Winchester, N. H.; S. W. Bartlett, East Windsor, Ct.; P. Stedman, Chicopee, Mass.

*Ayrshire and Hereford Committee*—Geo. B. Loring, Salem, Mass.; H. S. Collins, Collinsville, Ct.; Wm. Birnie, Springfield, Mass.

*Devon Committee*—H. M. Sessions, South Wilbraham, Mass.; B. H. Andrew, Waterbury, Ct.; E. H. Hyde, Stafford, Ct.

*Alderney Committee*—John Brooks, Princeton, Mass.; O. B. Hadwin, Worcester, Mass.; James Thompson, Nantucket, Mass.

Adjourned to meet at Springfield, Mass., the second Wednesday of February next.

# Ladies' Department.

## DOMESTIC ECONOMY;

OR

## HOW TO MAKE HOME PLEASANT.

BY ANNE G. HALE.

[Entered according to Act of Congress, in the year 1866, by R. P. Eaton & Co., in the Clerk's Office of the District Court for the District of Massachusetts.]

### CHAPTER III.

### HOUSE PLANTS, AND THEIR CULTURE.

The BEGONIA—called sometimes Beefsteak plant, from the peculiar appearance of the leaves of one species—is of easy culture, and has become a general favorite. The family takes its name from Michael Begon, a Frenchman, a promoter of botany, born in 1638. The plant was first brought into notice in 1776. Since then about fifty different species have been discovered, all of which are remarkable for their elegant leaves, often deeply veined with crimson, sometimes spotted—as *B. picta*, painted-leaved. The flowers, with the exception of two species bearing scarlet blossoms, are white, or blush-tinted, with golden stamens; and their delicate wax-like beauty contrasts well with the foliage. The plant is easily propagated by cuttings in moist sand. *B. discolor* increases itself by suckers, each having a tuberous root. Begonias should be grown in a soil composed of well-rotted leaves, sand, and peat; the pot filled one quarter with broken charcoal and pebbles, for drainage. They need a good deal of water till the flower-buds are formed; then decrease the quantity, and when they have done blooming keep them rather dry until the autumn.

The word CACTUS, meaning prickly plant, comes from the Greek. This genus is usually leafless. The fleshy, succulent plants throw up stems which widen and flatten into a paddle-shape with coarsely notched edges; or they assume a globular, a jointed form, or that of an angular column;—sometimes the grotesque appearance of animals, or reptiles, all more or less studded with sharp prickles, and bristling with stinging hairs. The flowers are showy, many of them fragrant, also,—as the night-blooming cereus, one of the tribe. The cactus is indigenous to this continent; one species, *C. opuntia*, the prickly pear, is hardy enough to venture as far north as New England. But it is usually confined to the tropics, growing abundantly in Mexico, and Brazil, and affording the natives both food and drink in the dry season. The wild cattle, also, contrive to slake their thirst with its juices without wounding themselves with the thorns. The great melon thistle, or Turk's head cactus, resembles a large, fleshy, green melon with deep ribs, set all over with sharp thorns. In the centre rises a short pillar, from which the blossoms are produced. Specimens of this kind of cactus, more than two yards in circumference, and over a yard in height, have been seen clinging to the rocks in the West India islands. Travellers also mention one species of the plant, which, if torn, pours forth a fluid of the most poisonous character; but when carefully cut yields a wholesome refreshing beverage.

The cactus,—being subjected in its natural state to extreme moisture followed by extreme drought, when cultivated should be kept dry through the summer, yet not in the sun. Late in September begin to water it, giving it more sunshine, and more water gradually, until the flower-buds appear; you will see them in the notches of the edge, or at the end of a joint. If very closely budded, cut some out; those remaining will be handsomer than if all are suffered to bloom. Give it warm water, freely, till it is done blooming. Wash it well with a syringe every week. Apply liquid manure to the soil two or three times during the winter. The cactus is propagated by cuttings. Let the piece to be rooted remain in a dry cool place till it gets shrivelled a little. Then set it in wet sand and cover with a glass. When it looks full and thriving transplant to soil. The pot should be a quarter full with cinders. Upon this lay a compost of peat, sandy loam, and old plastering or mortar rubbish—if you cannot procure this last ingredient, burnt bones, coarsely pulverized, will answer;—there should be twice as much loam as of the other materials. This soil will need no changing for several years; and the pot may remain the same, as the cactus requires but little room for its roots. Among the handsomest, and also of easiest culture, may be mentioned *C. speciosissimus*—beautiful cactus—bearing a splendid orange scarlet flower, from which the stamens depend like an elegant white tassel. There

are also others having pink, white, and yellow blossoms, but, in general, the awkwardness of the plants prevent their introduction among parlor flowers.

Calceolaria, or Slipper-wort, from the form of its corolla. Chili and Peru abound in many fine species of this plant. It was first cultivated in 1773, and now the varieties and hybrids of the genus are almost innumerable. At first its blossom was of one color only—yellow; now, we have specimens of almost every shade and tint. The calceolaria is raised easiest from seed; but cuttings, first rooted in water and then kept from the sun a few weeks, do well. They should be started in May, in a soil of rich light loam mixed with peat and sand; a layer of broken crockery occupying the bottom of the pot. Give them plenty of sun and air after they begin to grow, and water freely. Tie the centre stem to a stout wire, and prune the side branches to make a symmetrical plant; or else train it to a frame. It is well to repot old calceolarias, every spring, and cut back the branches a few inches, in order to increase their strength. Keep them in an airy, cool place till September; then bring them forward gradually.

Calla Ethiopica: Arum, formerly, Aron, is supposed to be an Egyptian name by which this lily was known. It is a native of the Cape of Good Hope, and of the island of St. Helena; where it grows by the side of rivers. This plant requires so much moisture that it is sometimes grown in aquariums, the root being covered by stones to keep it in place. The leaves, when young, are eaten raw in Egypt; and in that country, as also in the Levant, the root is boiled for food. A cosmetic is made by the French from the dried and powdered root of one species. It is also used in medicine, though more seldom now than formerly. This beautiful lily, with its shining arrow-shaped leaves, and pure white flower, makes a majestic ornament for a window-seat; or looks finely as the centre of a group of more gaily colored and smaller plants. It is increased by off-sets, that form on its thick, fleshy roots. These should be first placed in small pots, in a soil three parts sandy loam and one of well-rotted leaves, with a handful of pebbles beneath. As the plant increases in size, give it a larger pot every year, with soil prepared as above. Water frequently, for it will not flower if it once becomes dry while in a season of growth. After blooming, the leaves will begin to wither; then, lessen the water, giving it only enough to keep it alive. When the leaves are all dead keep the plant dry, and in the dark, about a month, for entire rest; then re-pot it. As soon as the new leaves have started, set the pot in the sunshine; and, early in October, bring it within doors; let it have a warm, sunny situation till the flower-bud appears. Remove, then, to the shade, but keep it where it is light. Supply water abundantly. Let the saucer be always full;—if it imbibes too much it will be thrown off in drops from the points of the leaves.

The Camellia Japonica is one of the most beautiful of house-plants. It takes its name from Kamel—Latinized, *Camellus*—a Moravian priest, who travelled in Asia, and was first carried to Europe from Japan, or China, 1739. This flower and the chrysanthemum are favorites of the Chinese, and are very frequently introduced into their paintings. In its natural state it grows to a large tree; and its deep green foliage and elegant blossoms—red, white, yellow, or purplish—sometimes variegated and blotched in color, render it one of the finest objects in an Oriental landscape. The seeds are boiled and crushed to obtain an oil, one kind of which is used for anointing the hair; others in medicine; others in cookery. It is to this large family that the tea-plant belongs; and many beautiful flowering trees and shrubs.

The camellia is usually propagated by cuttings, as it takes a long time for some varieties of the seed to come up. Yet, sometimes, seeds planted in boxes of earth in China will become seedling plants before reaching this country. The cutting should be taken from the base of a leaf, or at a joint, as soon as the wood is ripened, and placed in damp sand, under a glass. From this, when well rooted, transplant to a pot one-third full of broken charcoal covered with dry moss. Lay upon this moss the soil, composed of well-washed river-sand, peat, light loam, and rotten leaves, in equal proportions, well mixed. When the plants are growing they need a great deal of water, but the leaves will blister and become stained if wet when the sun is shining upon them. If kept too dry, the buds will drop off. There is danger that the roots will get matted, so they must be re-potted every year. This should be done as early as possi-

ble after flowering. Then, during the summer, keep the camellia cool and shaded; setting the pot away from the dripping of trees or bushes, upon a pavement of cinders, and watering it regularly. In September bring it to the sunshine; and be sure to take it in-doors before the evenings get chilly. As soon as the buds are formed set the plant away from the sun, yet in a light, airy place, and the flowers will open well and remain long. Keep the leaves free from dust, but do not sprinkle the plant while in bloom, apply the water directly to the soil. If you wish for large flowers allow only one bud to remain on each terminal shoot. After blooming, prune immediately, but not too close.

CARNATION. This flower belongs to the Pink family, called by botanists, Dianthus, the flower of God; because of the esteem in which their beautiful and fragrant flowers were held. Carnations were formerly called "coronations," and "clove July-flowers:" pinks were called "soppes in wine," because their petals were used to flavor goblets of wine, as rosemary tankards of ale. Carnations were first introduced into England from Germany. Many are brought from Italy, and those flowery lands, the islands of the Mediterranean; but they seem to have been unknown to the ancients. There are three, kinds of carnation. Flakes—striped with broad bands of two colors; Bizarres—striped, or streaked, with three colors; and Picotees—white, spotted or bordered with some dark color. These last are the hardiest, though seldom so large a flower as the others. They are sometimes raised from seed, obtained in Vienna and some of the Swiss towns, which if corked in phials will keep in good order for growth many years. But the better way is from layers.

Early in spring set a mature plant in the hot sun until it droops: because when the branches are wilted they will not break easily, and the shoots to be operated upon ought not to lose their connection with the parent stalk. Select three or four of the strongest lower shoots. Cut each shoot about half through, in a slanting direction, at a joint. Make a furrow in the soil just beneath it, rather more than an inch deep, and lay the cut stem within it; fastening it down with a bit of bent wire, or an old hair-pin. Then cover the wounded part with the soil, but let the end of the stem remain an inch or two out of the earth. After they are rooted set them together in a five, or six-inch pot. Fill the pot one-third with broken charcoal and cinders. Lay upon this a mixture of rotten leaves, fibrous peat and seasand—or common sand—with a little salt. Press this soil very firmly about the roots. Keep the pot in the shade, water it regularly. Be sure that no worms can get at the roots. By October the shoots will need tying to a rod, or a stout wire. Take them into the house, and give them the full benefit of the sun; and as soon as the buds appear, water them at evening, as well as in the morning. As the calyx is apt to burst, when the buds are fully swollen, open its sepals a little, with a pin, or a sharp penknife; and make a ring from a round piece of pasteboard, or of fine elastic cord, and slip it on the bud, placing it so that it may be a support for the calyx, and may keep the petals in regular form after the expansion of the flower. Cut off each blossom close to the next joint as soon as it withers; and when all the buds have opened, if the plant looks slender and weak, cut every branch back, evenly, three or four inches. Some persons make little umbrella-shaped caps of paper, and attach them to the rod which supports the flower so as to shade it during the greatest heat of the sun.

CHRYSANTHEMUM. This name, signifying golden flower, comes from the Greek; and the plant is so called because many kinds bear yellow flowers. One variety was carried from the island of Sicily to England as early as 1629; but the most beautiful are of moremodern origin, and have been brought principally from China. The gardens of the Inner and Middle Temple, London, were once a source of great attraction on account of this flower, which, for over thirty years, was very successfully cultivated there. Chrysanthemums can be made into wreaths, or worn singly in the hair, without losing their brightness, or drooping at all, during a long evening; and they are among the best of flowers for vases. There seems to be some peculiar property in their juices which not only prevents their own decay, when kept in water, but helps to hinder the decay of other flowers that are mingled with them. The flowers of different varieties of Chrysanthemum vary as much in form, as in color; but any of them are beautiful enough, if proper care is taken to have the plant grow in good shape, for a parlor ornament from October to

the last of December. This is their season of blossoming. After it is over they should be kept in a cool dry cellar till spring. The chrysanthemum is easily raised from suckers, from division of the roots, or from cuttings. It should have a small pot at first, and be set in light, rich soil—loam peat and powdered charcoal. Do this in May, and set the pot among garden flowers. Water it regularly, but not too much. In July the plant will need a larger pot; and, again, in September, a still larger one. This changing will make it grow stout and bushy, and cause it to bloom abundantly; but be careful not to loosen the soil from the roots when transplanting. Old plants should be taken from their pots early in the spring, all the soil shaken from their roots, and the suckers trimmed off. Set them in fresh soil, mixed as before; and water them with liquid manure till the foliage is well developed. Then give them the same treatment as young plants, and they will continue stout and healthy many years. Be sure that the pot is not exposed to the scorching heat of the sun. If it cannot be shaded by setting it among bushes in the garden it should be sunken in the mould, for, although the leaves and branches require a good degree of heat, the roots should be kept cool and always moist, though not too wet. Soap-suds agrees well with the chrysanthemum; but if that is used in which clothing has been washed, it should be strained, as the lint which it contains is apt to form a crust on the surface of the soil.

Daisy. This little plant well deserves its botanical name, *Bellis*—pretty,—and its neat tufts of delicate green leaves, surmounted by bright pink blossoms, ought to have a place on every flower-stand. It grows wild in England and Scotland, but of less handsome form and color. Cultivation has given it the button shape of its flower, and also its glowing, sunset hue. Burns often alludes to this "wee, modest, crimson-tipped flower," as he calls it, in his poem to the daisy that he turned down with his plow one dreary April morning; and it has long been a favorite with English poets. Wadsworth dedicated three poems to the daisy; Spenser sang of the "little dasie that at evening closes;" Chaucer called it the "e'e of daie," and "la douce Marguerite;" and Ben Jonson has a friendly word for the "bright day's eye." Chaucer was very fond of it. In his time it was called, as now, in France, Marguerite; and considered an emblem of constancy in love. He would lie for hours upon the grass looking at it, and, dreaming of fair ladies and brave knights, frame his poems of chivalry.

Many compound flowers—among which is classed the daisy—have their rays in an erect position during the night,—like "the marigold, which goes to bed with the sun, and with him rises weeping." This sleep of the flowers was discovered by Chaucer, in his observation of the habits of the daisy.

The daisy is generally used in edgings of beds and borders, in England and France; and being very prolific, and blooming early, it is always desirable for that purpose; the French, because it is in flower about Eastertime, sometimes call it "*paquerette*" (not so beautiful an appellationas "*marguerite*"—the pearl.) It thrives best in a rich, loamy soil; and is propagated by off-sets, or division of the roots. Fill a small pot with a mixture of sandy loam and peat, and in this set the young plant, pressing the soil firmly about the neck, water it to settle the earth well, and shake the pot for the same effect; and if the soil has fallen away from the plant, add a little more. This should be done in May, and the pot kept in an airy, cool place, and watered occasionally—just enough to keep it from getting dry—till the first of October. Then, set it among your parlor plants, letting it have a front place at the window; as it will need the sunshine to bring forward the flowers, which will be hastened, if liquid manure be given it. Every spring the daisy needs re-potting, and should have its roots divided. It will bear transplanting, even when in bloom, if the soil is not entirely detached from the root.

Daphne. This is the Greek name for the laurel-tree, which it resembles; and which was so called in honor of a beautiful nymph, the daughter of a river-god. According to ancient mythology she was beloved by Apollo, but she rejected his suit and determined to escape him. Praying for aid, she was metamorphosed into a laurel; which became, in consequence, the favorite tree of Apollo. *D. odorata*, (erroneously styled *D. odora*) is the species generally known as a fine window-plant. It has dark, glossy, laurel-like leaves; and very fragrant, wax-like flowers of pearl, or rosy

white. It will flourish and bloom, even when neglected; but it well repays all care spent upon it. It was introduced from China in 1770, and is easily propagated by cuttings. Set it in a pot drained with broken brick or cinders; in a soil, four parts loam, two of leaf mould, and one of sand. Old plants should be re-potted in September, with a ball of earth about the roots. If kept in an equal temperature of moderate heat, day and night, it will bloom from December till the last of March. After blooming, prune it freely, or it will have an awkward, scrubby appearance. Keep the leaves free from dust. To effect this it will need frequent syringing through the winter, if in a small room.

EUPATORIUM. Pliny says that this plant derives its name from Eupater, king of Pontus, who first used it in medicine. Many species have been discovered on this continent; but few are found in Asia, less in Africa, and not one in Europe. Several ars medicinal, as *E. perfoliatum*—boneset—thoroughwort—or feverwort, and *E. rotundifolium*—hoarhound. Others are ornamental, lifting their branches of bright green foliage crowned with clusters of tassel-shaped flowers, white, purple, blue, or pink, by the side of woodland streams, or along lonely mountain paths. But the florist has adopted them; and under his loving care their beauty has been greatly enhanced. *E. ageratoides* and *E. cælestinum* are among the best for cultivation, and are very desirable as funeral flowers. Grow them in a soil of peat, sand, and loam. Water them freely. Give but little sun when in bloom. Propagate by cuttings, started in the spring; and water daily through the summer. In the autumn they will have attained a good height and strength for blooming through the whole winter. Cut the flowers when in full bloom, as the seeds are quickly ripened and set free,—sometimes wafted to the soil of other plants, and germinate where they are unwelcome. Old plants should be cut down in May, the soil shaken from their roots, and re-potted lest they should get pot-bound.

FUCHSIA, sometimes called Ladies' Ear-drop. Named in honor of Leonard Fuchs, a German botanist. It is a native of the warmest parts of America—was first discovered by Father Plumier, a Jesuit, on one of the French Islands; and introduced for cultivation by Miller, in 1774. Since then many varieties have appeared. A sailor boy carried his mother in England, a plant from "over the sea." For his sake she cherished it with great care. It stood at her window, and one day attracted the attention of a horticulturist, who was passing. He immediately bargained for its purchase, and for many years this was one of the best species known. The fuchsia is increased by cuttings rooted in damp sand and covered by a glass, then changed to a pot filled one-quarter with sherds. Soil—loam, peat, and leaf-mould, in equal proportions. Break up the peat, and mix the parts well, but loosely. Do not injure the rootlets in arranging the soil about them. Water it well. Give it air, and shade. In a week or two tie the centre stalk to a stake. Thin out the side shoots—let only enough remain to give the plant a symmetrical shape. When the branches are two or three inches long, pnich out their tips, to make them grow bushy; and, if you choose, the centre stem, also, when it is three feet high. Give liquid manure to hasten the buds; and place in the sunshine. If the branches droop too much, arrange rods or wires at the edge of the pot and tie them up. After blooming prune closely, and re-pot. All fuchsias are so beautiful it is useless to particularize any species. The flowers when cut remain fresh a long time; they are therefore in much request as ornaments for the hair and for boquets.

FORGET-ME-NOT. An old legend of the Troubadours tells us that a knight and a "ladie faire" were walking beside a stream. And the lady seeing among the sedges a little flower of "heavenlie blue" expressed a desire for it. Her companion hastened to gratify her wish. With much difficulty he succeeded in gathering the blossoms; but the tide was rising rapidly, and his strength failed. Throwing the flowers toward her, he cried, "Forget me not;" and sank beneath the wave. This is the origin of the name. It grows wild in England, in damp places, but is transplanted to gardens; and in Paris pots of forget-me-not are regular articles for sale in the markets. It is said that after the battle of Waterloo an immense quantity of the plant sprang up on the field. The Germans decorate their tombs so frequently with it that they may well call it "the flower of death." Among Italians it is the periwinkle With us it has lately been brought into notice,

as a small border-flower for the garden. But it thrives best as a house-plant, raised either from seed, or division of the root. It needs a rich soil of peat and loam, and a good deal of water.

Geranium. Name, meaning Crane's bill, from the Greek, alluding to the form of the seed-vessel. This genus bears so great resemblance to Pelargonium—Stork's bill—that both generally go by the same name; but plants of the stork-bill family bear the larger and more showy flowers. Geraniums proper, are chiefly natives of Europe,—there are a few American species—and, in many cases, are mere weeds. Pelargoniums come from the Cape of Good Hope, and in their natural state are very beautiful. There are also hybrids of the two, uniting the best qualities of each. As early as 1596 geraniums were brought from Italy to the North of Europe; but with the exception of one small species no pelargoniums were cultivated till the latter part of the last century. There is little art in growing them, so geraniums are our commonest house-plants. Leigh Hunt has said "if one have a solitary plant, let it be a red geranium;" and that his opinion has received general endorsement, we have full proof in the prevalence of that species. These plants need plenty of light, and air, and cleanliness. They should be often syringed; and the branches tied out so that light and air can be admitted to the centre of the plant. Thus they will gain strength and every shoot throw up its flower-buds without interruption, Arrange rods or wires around the rim of the pot for this purpose, and avoid pushing sticks or wires among the roots. Do not water too much. The succulent kinds need scarcely any water, except when preparing to bloom. A little weak liquid manure is necessary for fine blooms, and to give a healthy, green appearance to the leaves. Any geranium is propagated easily by cuttings kept a few days in water and then placed in good soil under a glass. In May, old plants must be re-potted. A handful of pebbles and charcoal being in the bottom of the pot, throw over it soil of loam and decayed leaves—for the dwarf kinds a portion of sand added. With a sharp knife cut the new wood of the plant back to a few joints. Of these pieces you can form new plants, and the old geranium will grow stouter and more bushy. Take the old plant from its pot; and trim off the ball of earth, so that it may have an inch or two of fresh soil in the new pot, which should be a size larger, year by year. Fill the soil around it carefully, shaking the pot, or striking it to settle it well; and press the soil gently about the collar of the plant. Water it and keep it in the shade a month; then give it a place where it can receive the sunshine upon its foliage without heating the pot; or, sink the pot in the ground till September. Bring it then to the parlor, and water it daily with warm water; adding liquid manure as soon as the flower-buds appear. It is unnecessary to mention any especial variety, tastes differ so much; but it would be wise to have at least one representative of the sweet-scented geraniums on every flower-stand, for their foliage is beautiful, and their blossoms are neat if not very attractive. They are always needed to accompany the white and the purple flowers which friendship gathers as its last gift to the loved departed; and, indeed no bouquet of exotics appears complete without their presence.